

nuvoTon

RUIFAN 瑞凡

2024

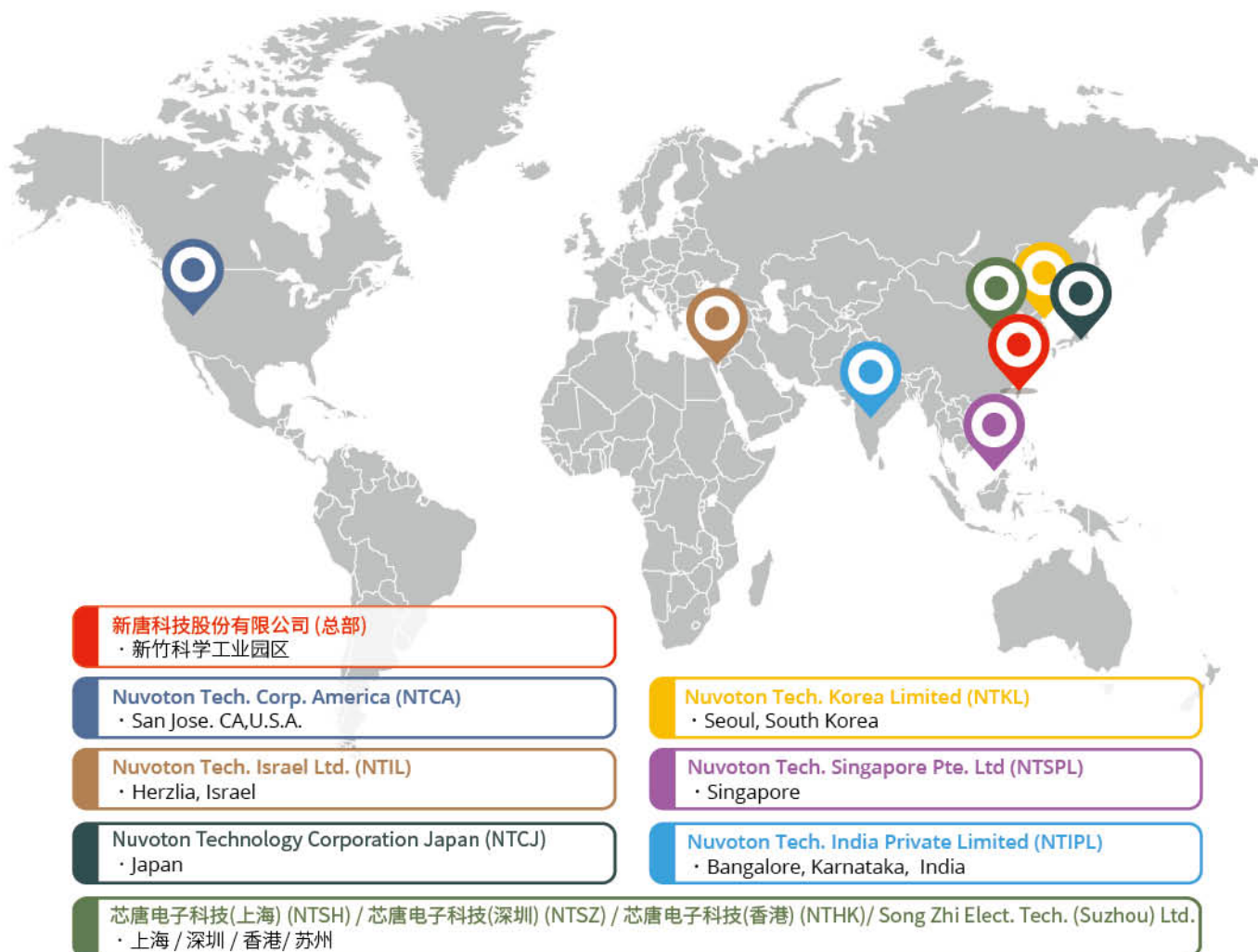
产品选型手册



Photo by Jeffrey Cheng

新唐科技成立的宗旨是为半导体产业带来创新的解决方案。公司成立于2008年，同年7月受让分割华邦电子逻辑IC事业单位正式展开营运，并于2010年在台湾证券交易所正式上市挂牌。新唐科技专注于开发微控制/微处理、智能家居及云端安全相关应用之IC产品、电池监控IC、影像感测IC、IoT应用IC、半导体组件等产品，相关产品在工业用、车用、通讯用、消费电子及计算机市场皆具领先地位；此外，新唐科技拥有的6吋晶圆制造厂，具备多样性制程技术能力，提供专业化晶圆代工服务。本公司以灵活之技术、先进之设计能力及数字模拟整合技术能力提供客户高性价比之产品，并重视与客户及合作伙伴的长期关系，致力于产品、制程及服务的不断创新。新唐科技在美国、中国大陆、以色列、印度、新加坡、韩国及日本等地均设有据点，以强化地区性客户支持服务与全球运筹管理。

如需进一步了解新唐科技，请参访公司网站 <https://www.nuvoton.com>



Nuvoton Technology Corporation certifies that semiconductor products designated by Nuvoton are compliant with the requirements of the European Union's Restriction on Use of Hazardous Substances ("RoHS") Directive, 2011/65/EU & Commission Delegated Directive (EU) 2015/863.

NuMicro® 生态系统

NuMicro Ecosystem

微控制器产品平台

特色产品推荐：车用 / 工业控制 / 低功耗 / 光模块

物联网平台

物联网安全平台

图形用户界面

智能家电平台

数字平台

开发工具平台 NuDeveloper Ecosystem – Make the Engineers' Job Easier

NuMicro® 产品选型指南

List of Abbreviations, Acronyms, Codes

NuMicro® A35 微处理器家族

| MA35D1 Series **NEW**

NuMicro® M4 微控制器家族

M451 系列

M460 系列 **NEW**

M471 系列 **NEW**

M480 系列

NUC505 系列

KM1M4B 变频器控制系列

ISD® 94100 系列

NuMicro® M23 微控制器家族

M2351 系列 **NEW**

M2354 系列

M2L31 系列

M251 系列

M252 系列

M253 系列 **NEW**

M254/ M256/ M258 系列 **NEW**

M261/ M262/ M263 系列

M2003 系列 **NEW**

NuMicro® 车用微控制器家族

M0A23 CAN 系列

NUC131U CAN 系列

NuMicro® M0 微控制器家族

M029G / M030G / M031G 系列

M031 系列

M032 系列

M031BT / M032BT 系列

M071 系列 **NEW**

Mini51 系列

M051 系列

NUC029 系列

NUC121 系列

NUC131/ NUC230/ NUC240 CAN 系列

Nano100 系列

NuVoice™ 系列 **NEW**

NuMicro® M7 微处理器家族

KM1M7A/KM1M7C 数字电源系列

KM1M7B 逆变器控制系列

NuMicro® 8051 微控制器家族

MUG51 低功耗系列 (1T) **NEW**

MG51 系列 **NEW**

MS51 工业控制系列 (1T)

ML51 低功耗系列 (1T)

ML54 低功耗 LCD 系列 (1T)

ML56 低功耗 LCD + 触摸系 (1T)

N76E 系列 (1T)

N76E 系列 (4T)

标准型 8051 系列

NuMicro® Arm9 微处理器家族

NUC970/ 980 系列

N9H 系列

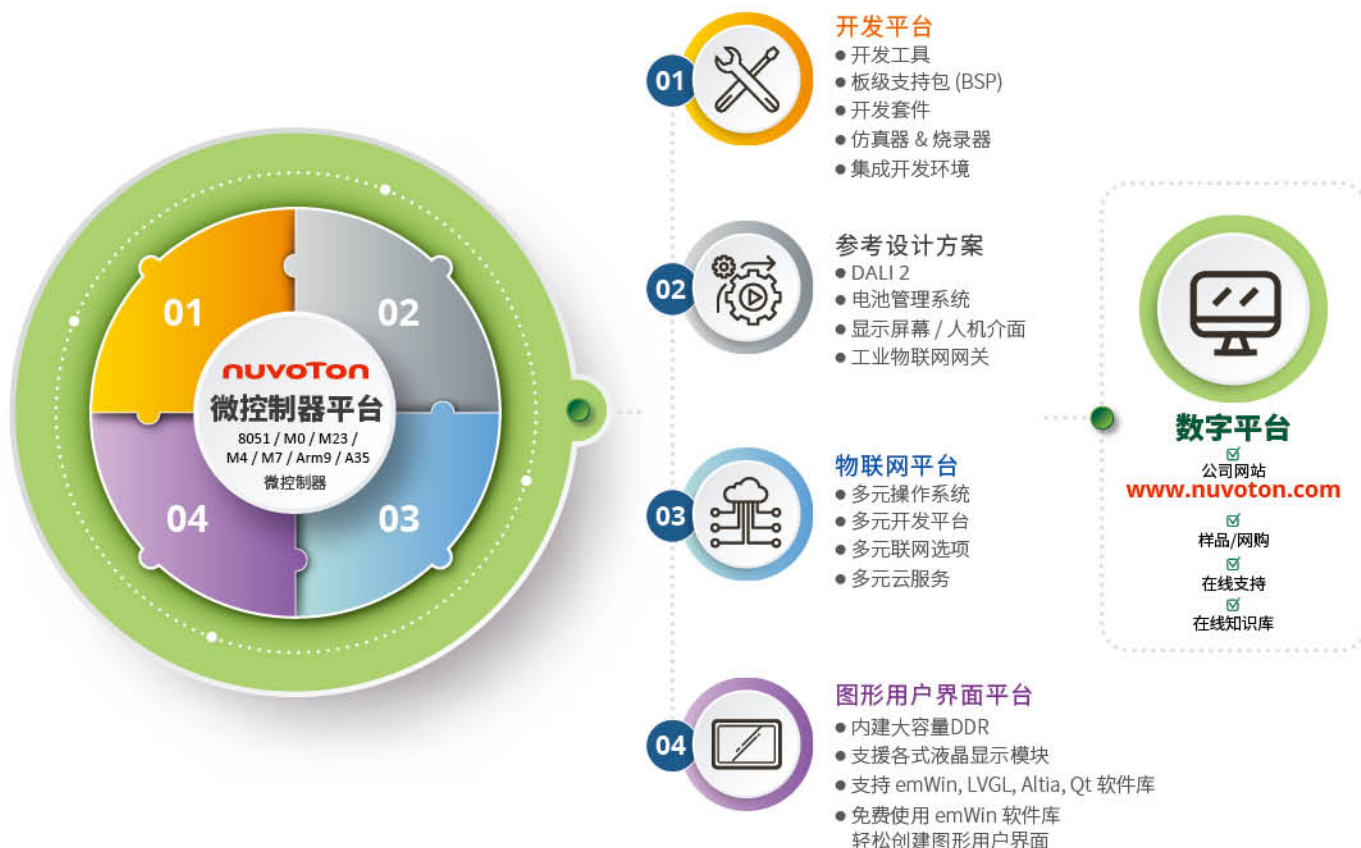
N329 系列

新唐科技提供了一个完整的微控制器生态系统，从微控制器产品选型、开发，到批量生产都提供了丰富的开发资源，缩短合作伙伴的设计周期并大幅加速产品的上市时间。

从NuMicro®生态系统的核心出发，新唐科技提供了丰富的产品组合，从8051、Cortex-M0/ M23/ M4/ M7、Arm9 与 Cortex-A35 的微控制器，提供超过 600 种型号供客户弹性选型。为了提供更便捷的开发体验，新唐科技提供数种集成开发环境供客户选用。包括可免费使用于NuMicro® M0/ M23 项目开发的 Arm Keil、可免费使用于NuMicro M0/M23/M4 项目开发的NuEclipse，亦支持 IAR Embedded Workbench。另外，新唐科技也提供了丰富的开发工具、开发板所支持的软件开发包(BSP)、开发套件、仿真器与编程器等，促进微控制器应用项目的开发。

新唐科技提供丰富的参考设计和完整的物联网平台，以实现各个领域的创新。新唐科技物联网平台提供多元的云服务及连网选择，并支持多种操作系统。客户可以选用低功耗或物联网安全微控制器，搭配物联网平台的丰富资源，轻松实现物联网节点装置或网关。

NuMicro® 生态系统



NuMicro® 生态系统 — 微控制器平台



Cortex® A35

工业控制与人机界面
人工智能物联网
机器学习
边缘网关
新能源

Cortex® M7

物联网安全
低功耗

Cortex® M23

物联网安全
低功耗

Cortex® M4

高性能
物联网
安全
音效增强与人机界面控制

Cortex® M0

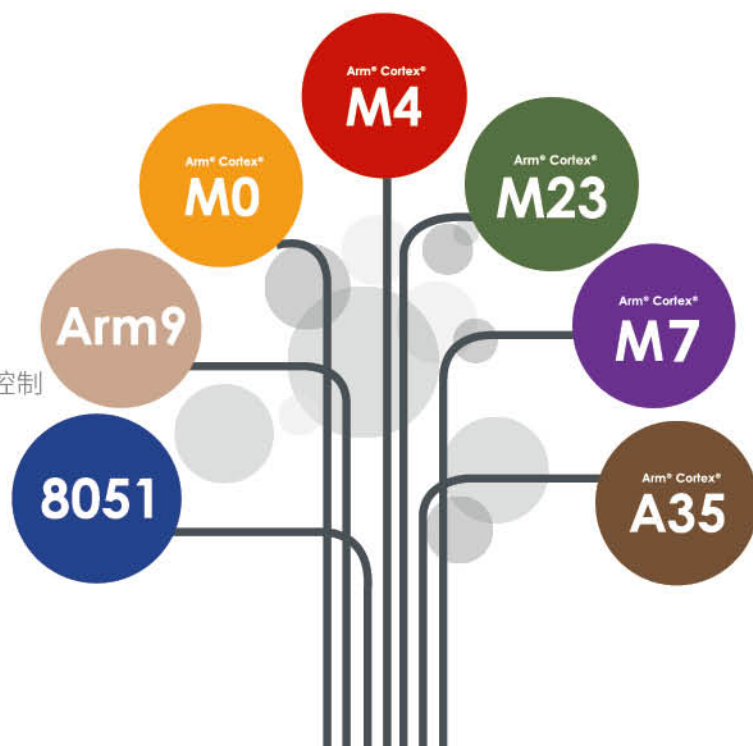
丰富平台
工业控制
车用
智能互动学习

Arm 9™

工业控制
人机界面
物联网

8051

工业控制
低功耗



Operating Frequency

800 MHz
300 MHz
192 MHz
120 MHz

72 MHz

64 MHz

24 MHz

16 MHz

8051	Cortex®-M0	Cortex®-M23	Cortex®-M4	Cortex®-M7	MPU Cortex®-A35 MA35D1 Arm9™ NUC980 NUC970 N9H N329
	NUC1261 NUC126 M031G M029G/M030G M032 M031 NUC029 M032BT M031BT NUC230 NUC131U NUC1311 I91260 I9160 N574 N572 N570 M0A23 M071 M051 Mini51 Nano100	M2354 M2L31 M2351 NUC1263 NUC1262 M263 M262 M261 M258 M256 M254 M253 M252 M251 M2003	I94124A M480 M460 M471 KM1M48F M453 M452 M451	KM1M7AF KM1M7BF	

超过 1200 种型号可供选择

Operating Voltage 1.8V 3.3V 5V

Feature Audio USB CAN CAN FD Ethernet LCD Touch Key Bluetooth Motor Power

车用

低功耗

TrustZone

特色产品推荐：车用控制器

NuMicro® 汽车微控制器通过 AEC-Q100 标准, 适用于汽车应用。新唐汽车微控制器内嵌 Cortex-M0 和 Cortex-M4, 提供高达 4 组 CAN FD。工作频率范围为 48 至 200 MHz, Flash 大小范围为 32 KB 至 2.5 MB。

NuMicro® 汽车微控制器为 ECU、车身控制、ADAS 和汽车照明提供高性能和高可靠性的综合系统解决方案。

支持多种 IDE, 包括 Keil MDK Nuvoton Edition、IAR EWARM 和 NuEclipse。

	M0A23	NUC131	NUC230/ 240	M253	M453	M483	M487	M463	M467
Core	Cortex-M0	Cortex-M0	Cortex-M0	Cortex-M23	Cortex-M4	Cortex-M4	Cortex-M4	Cortex-M4	Cortex-M4
Speed (MHz)	48	50	50	48	72	192	192	200	200
Flash (Kbytes)	32	68	128	128	256	256	2560	256	1024
LIN	2	3	3	2	2	2	2	2	2
CAN/CAN FD	1/-	1/-	2/-	-1	1/-	3/-	2/-	-/2	-/4
Operating Temperature (°C)	-40 ~ +125	-40 ~ +105	-40 ~ +105	-40 ~ +105	-40 ~ +105	-40 ~ +105	-40 ~ +105	-40 ~ +105	-40 ~ +105
AEC-Q100	✓	✓	-	-	-	-	-	-	-



特色产品推荐：工业控制微控制器



新唐科技是工业控制行业的微控制器领导厂商。透过提供高质量的微控制器产品和长期供货保证,成为工业控制客户不可或缺的合作伙伴。

● 十年供货保证：

致力于确保长达十年的供应连续性和稳定性。

● 高制造质量：

NuMicro 产品由一级制造厂生产，并经过一级封装测试厂之验证，以确保产品之高质量性与稳定性。

● 优于工业级之工作温度：

所有微控制器新产品工作温度可从 -40 至 105 °C；
微处理器则可涵盖 -40 至 85°C，适于工业应用。

● 提供经实验室认证之 Software Test Library (STL) 以降低 IEC 60730-1 Class B 安全认证之开发难度。



Cortex-A35 家族

工作主频：高达 800 MHz
ESD (HBM)：高达 2 kV



Arm9 家族

工作主频：高达 300 MHz
ESD (HBM)：高达 4 kV / EFT：高达 4.4 kV



Cortex-M4 家族

工作主频：高达 200 MHz
ESD (HBM)：高达 8 kV / EFT：高达 4.4 kV



Cortex-M23 家族

工作主频：高达 96 MHz
ESD (HBM)：高达 7 kV / EFT：高达 4.4 kV



Cortex-M0 家族

工作主频：高达 72 MHz
ESD (HBM)：高达 8 kV / EFT：高达 4.4 kV



8051 家族

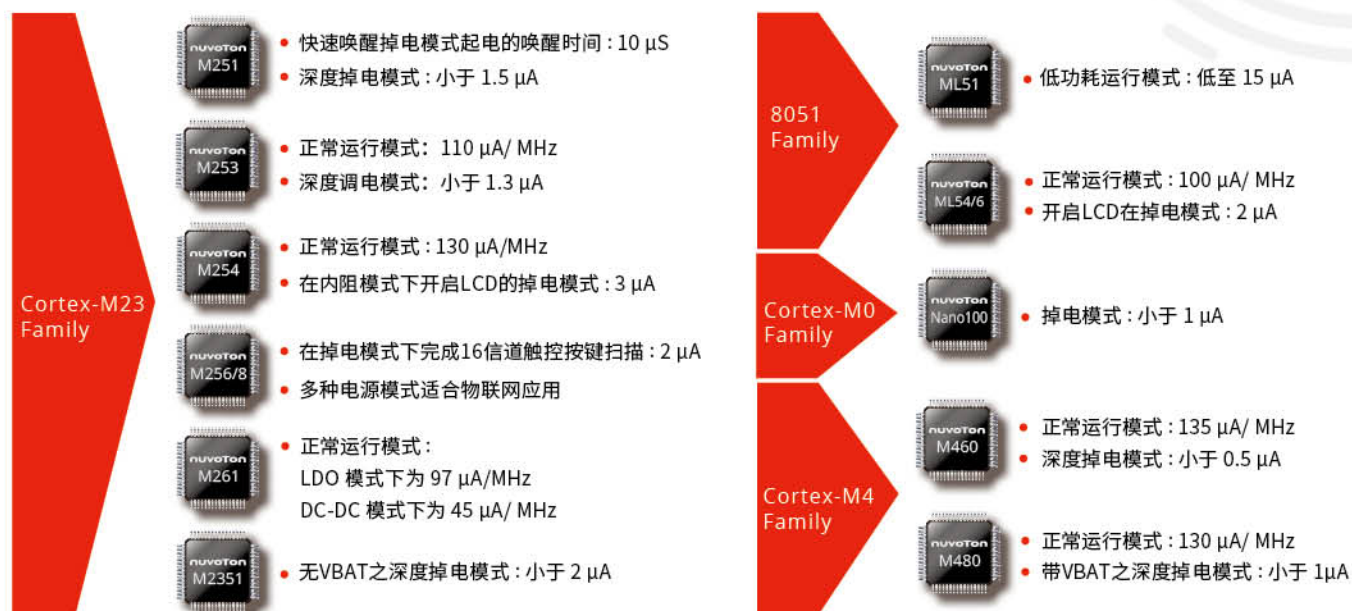
工作主频：高达 24 MHz
ESD (HBM)：高达 8 kV / EFT：高达 4.4 kV

工业控制应用领域	系列产品推荐 (关键特点)	
电池管理系统 BMS	[A35] MA35D1 (资料采集) [M4] M480/ M460 (工业储能系统, 家用储能系统) [M0] M0A23 (电动脚踏车)	[Arm9] NUC980 (资料采集) [M23] M253/ M2L31 (电动摩托车) [8051] MG51/ MS51/ ML51 (电动工具)
LED控制	[Arm9] NUC980 (大型LED广告广告牌) [M4] M460 (Mini LED 调光控制) [M0] NDA102 (DALI) [8051] MG51/ MS51 (LED 控制模块)	
工业连网	[A35] MA35D1 (以太网 10/100/1000, CAN FD) [M4] M460 (以太网 10/100, CAN FD) / M480 (以太网 10/100, CAN), M471 (WLCSP100, 高速光模块), M485 (QFN48, 高速光模块) [M23] M2351/ M2354 (TrustZone, CAN)/ M2L31/M253 (CAN FD) [M0] M0A23 (CAN)	[Arm9] NUC980 (以太网 10/100, CAN) [8051] MG51/MS51 (UART)
工业自动化	[A35] MA35D1 (工业交换机) [M4] M460/ M480 (传感器融合) [M23] M254/ M256/ M258 (段码LCD屏, 触控键控制) [M0] M0A23 (CAN 转换盒)/ M032/ M031/ M2003 (传感器模块) [8051] MG51/ MS51/ ML51 (传感器模块)	[Arm9] NUC980 (工业交换机) [OPA] NOP912/ NOP914 (BLDC 电机控制)
智能电网	[A35] MA35D1 (充电桩显示屏) [M4] M460 (充电桩, AMI 2.0 智能电表)/ M480 (智能断路器)/ M471/ M451 (智能电容器) [M23] M2351/ M2354 (AMI 2.0 智能电表)/ M2L31/ M253 (USB to UART转换盒) [8051] MG51/ MS51 (传统断路器) [ADC] NADC24 (高精度 24 位 ADC)	[Arm9] NUC980 (充电桩) [M451] (智能电容器)
智能建筑	[A35] MA35D1 (Edge Gateway) [M4] M480 (消防报警控制器)/ M460 (Thermostat显示屏) [M23] M254/ M256/ M258 (温控器)/ M2351/ M2354 (智能音箱) [M0] M031BT/ M032BT (BLE5.0)	[Arm9] NUC980 (消防控制器) [8051] ML51 (烟雾侦测器)/ ML54/ ML56 (温控器)
5V 微控制器系列	[M4] M451/ M471 [M0] M0A23/ M071/ NUC131/ NUC230/ NUC029 [8051] MG51/ MS51/ ML51/ MUG51	[M23] M251/ M253/ M254/ M256/ M258

特色产品推荐：低功耗微控制器

功耗是微控制器选择的重要因素，尤其是在以电池供电的物联网设备中，微控制器的功耗表现至关重要。除了不同电源模式下的功耗需要注意，唤醒时间也是另一个重要评价因素，对需要切换功率模式的应用格外重要。

新唐科技致力于为各种应用场景提供合适的低功耗微控制器解决方案，低功耗产品各有其强项：M2L31 系列在运行模式只有 60 $\mu\text{A}/\text{MHz}$ ，正常休眠模式带有 RAM 保持低于 10 μA ，ML51 系列具有独特的低功耗运行模式，运行电流可低至 15 μA ；ML54/ML56 系列在开启 LCD 模式下仅需 2 μA 的低耗电；Nano100 系列在掉电模式下的电流可低至 1 μA 、M480 系列于深度掉电模式的电流可小于 1 μA ；M251 系列从快速唤醒掉电模式起电的唤醒时间只需 10 μs ；the M254/M256/M258 系列在扫描完所有触摸按键只需 2 μA 。在深度掉电模式，M251 小于 1.7 μA 而 M480 系列小于 1 μA ，M2L31 系列小于 0.5 μA 。此外，M261 和 M2351 系列额外提供了 DC-DC 模式，可将 LDO 模式下的运行功耗减半。



低功耗应用	NuMicro 系列产品推荐								
	ML51	ML54/ML56	Nano100	M251	M253	M254/M256/M258	M261/M2351	M480	M463/M467
内核	8051	8051	Cortex-M0	Cortex-M23	Cortex-M23	Cortex-M23	Cortex-M23	Cortex-M4	Cortex-M4
工作主频 (MHz)	24	24	32 - 42	48	48	48	64	192	200
闪存 (Kbytes)	16 - 64	64	16 - 128	32 - 256	128	64-256	512	2560	1024
烟雾感应器	○	○	△	△	△				
血糖仪	△		○	○	○	○	○		
GPS追踪器	△	○	○	○	○	○			
手持式仪表	△		○	○	○	○	○	○	○
无线键盘/鼠标	△		○	○	○	○			
智能电子锁	○	○	○	○	○	○	○	○	○
血氧仪		○	○	○	○	○			

○：功能可完全满足 △：基本功能

特色产品推荐：光模块微控制器



新唐提供一套完整的光模块解决方案，不论是从数通领域到电信领域的应用；从目前通用的光传输场景甚至于新兴的 5G 前传波分复用 (WDM, Wavelength Division Multiplexing) 场景，皆能满足其应用需求。

新唐 NuMicro M029G/M030G/M031G 系列皆内建温度传感器、提供 QFN24 及 QFN33 的小封装选择，并且配有两组 I²C 接口，完全符合通用光模块的需求：(1) 精准检测温度、(2) 体积小、以及 (3) 通常采用 I²C 接口做沟通。除此之外，为了实现波分复用中以调顶讯号传递 OAM (Operation Administration and Maintenance) 报文的功能，NuMicro M031G 系列更搭载了支持 CRC 的硬件曼彻斯特编解码器，用来调解及调制低扰频讯号，另配有 1 组 DAC 支持自动数据产生功能。

- **硬件曼彻斯特编解码器***：调解及调制低扰频讯号
- **DAC 支持自动数据产生功能***：可于 500 kHz 的频率下产生 32 点平顺的正弦波做为调顶功能输出使用
- **温度传感器**：0°C 至 70°C 的精度为 $\pm 1.6^{\circ}\text{C}$ / -40°C 至 105°C 的精度为 $\pm 2^{\circ}\text{C}$
- **小封装**：QFN24 3x3 mm / QFN33 4x4 mm
- **I²C**：支持 400 KHz (M029G) / 1 MHz (M030G/M031G) 从机模式及无时钟拉伸

*仅 M031G 支持

关于高速光模块领域，新唐提供了基于 Cortex-M4 核心的 M471 系列与 M485 系列，此两系列提供了以下优点：

- **小封装**：QFN48 5x5mm / WLCSP100 4.5x4.5mm
- **Flash内存**：双区块架构支持 OTA
- **充足的 ADC 通道**：支持高达 24 路
- **I²C**：支持高达 3.4 MHz

Optical Transceiver Application	NuMicro Series Recommendation										
	M029G	M030G				M031G				M471CI8AE	M485YIDAE
内核	Cortex-M0	Cortex-M0				Cortex-M0				Cortex-M4	Cortex-M4
工作主频 (MHz)	48	48				72				120	192
Flash (KB)	32	32	64		32	64		512 (双区块)		512 (双区块)	
SRAM (KB)	2	4				8				64	160
硬件曼彻斯特编解码器	-	-	-		✓	✓		-		-	
DAC自动数据产生功能	-	-	-		✓	✓		-		-	
ADC	11	11/16		11/16		11/16		11/16		24	16
温度传感器	✓	✓		✓		✓		✓		✓	✓
封装	QFN24	QFN24	QFN33	QFN24	QFN33	QFN24	QFN24	QFN33	QFN33	WLCSP100	QFN48
应用场景	通用光模块 (中低速度)					调顶功能光模块 (中等速度)				通用光模块 (高速度)	

NuMicro® 生态系统 - 物联网平台

Support, multi-OS with multi-platform ; Provides multi-connection to multi-cloud.

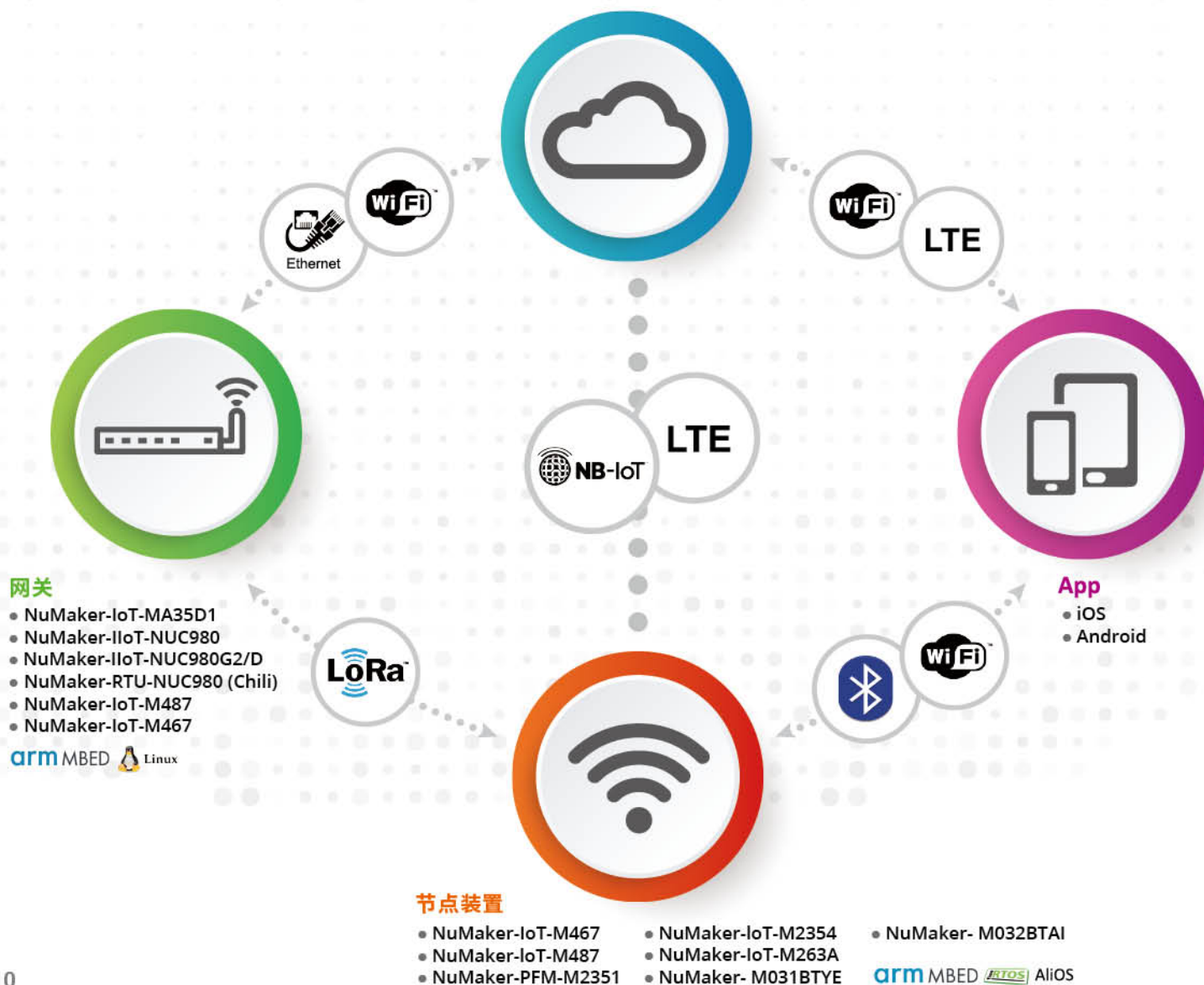
新唐科技提供一个全面的物联网平台，支持多元操作系统的开发平台，与多种联网方式以连接云服务。

在新唐科技提供的开发平台中，NuMaker-IoT-M467、NuMaker-IoT-M487、NuMaker-PFM-M2351、NuMaker-IoT-M2354和 NuMaker-IoT-M263A、NuMaker-M031BTYE、NuMaker-M032BTAI非常适合作为节点设备。此外，NuMaker-IoT-MA35D1、NuMaker-IIoT-NUC980、NuMaker-IIoT-NUC980G2/D、NuMaker-RTU-NUC980(Chili)、NuMaker-IoT-M487 和 NuMaker-IoT-M467 也很适合用作网关。

新唐科技将物联网平台的各个环节连接起来，以促进物联网的创新。NuMicro 微控制器于 NuMaker 物联网平台上支持多种操作系统，包括 Linux、Arm MbedOS、Amazon FreeRTOS、AliOS Things、Azure RTOS 和 RT-thread。此外，微控制器具备嵌入式加密加速器以提高通信性能并增强连接安全性。NuMaker 平台可以通过各种连接选项，包括以太网、Wi-Fi、LTE 和 NB-IoT 等，连接到各种云服务，例如 Amazon Web Service (AWS)、Arm Pelion、阿里云、Allxon、青莲云和 Microsoft Azure，并提供多种连网方式包含以太网、Wi-Fi、NB-IoT 以及 LTE。

欢迎下载新唐 IoT 平台资源参考文件 (https://www.nuvoton.com/iot_startup), 内容包含开发资源下载、快速上手范例、应用教学影片等丰富的信息。

aws arm PELION allxon
Azure, Alibaba Cloud, 青莲云qinglianyun



NuMaker Board	OS / RTOS	IP Connectivity					Non-IP Connectivity		Clouds					
		Ethernet	Wi-Fi	NB-IoT CAT-M1	NB-IoT	LTE	LoRa Device	BLE 5 2.4G	Arm Pelion DM	Amazon AWS	Alibaba Cloud	Microsoft Azure	Allxon	青莲云/TinyTEE
				Quectel BG96A	SIMCOM 7020E	Quectel EC21A	SX1276							
NuMaker-IoT-MA35D1	Linux	●	●	●		●			●	●	●			
	RT-Thread	●									●	●		
NuMaker-IIoT-NUC980 NuMaker-IIoT-NUC980G2/D	Linux	●	●	●		●			●	●	●			
	FreeRTOS	●												
	RT-Thread	●									●	●		
NuMaker-RTU-NUC980(Chili)	Linux	●	●	●		●			●	●	●		● ^{*5}	
	FreeRTOS	●												
	RT-Thread	●									●	●		
NuMaker-IoT-M467	MbedOS	●	●	●	●	●			●	●	●	●		
	Amazon FreeRTOS		●							●				
	RT-Thread	●	●								●	●		
	Zephyr	●	●	●						●		●		
NuMaker-IoT-M487	MbedOS	●	●	●	●	●			●	●	●	●		
	Amazon FreeRTOS	●	●	●						●				
	AliOS Things	●	●								●			
	RT-Thread	●	●								●	●		
	Azure RTOS		●									●		
NuMaker-IoT-M2354	MbedOS ^{*2}		●	●	●	●	●		●	●	●	●		●
	RT-Thread		●				●				●	●		●
	FreeRTOS		●				●							
NuMaker-PFM-M2351	MbedOS		●	●	●	●			●	●		●		●
NuMaker-IoT-M263A	MbedOS		●	●	●	●	●		●	●	●	●		
NuMaker-LoRaD-M252	MbedOS/Non-OS ^{*3}						● ^{*1}							
NuMaker-M031BTYPE	Non-OS							●						
NuMaker-M032BTAI	Non-OS							●						
NuStamp-ACK-M031LE	Non-OS		●							● ^{*4}				

新唐开发了一系列软硬件混合技术,加强 MCU 和 MPU 的软件执行安全、存储安全和连接安全,以实现 NuMicro® 系列产品的安全目标,这些技术包括:

- 微控制器中所有数据资产的都得到了很好的识别与保护
- 微控制器固件运行时所有潜在的安全威胁都得到了很好的解决
- 微控制器在硬件和软件方面的所有潜在安全漏洞都被很好地避免了

新唐致力于增强微控制器的安全性,NuMicro® M2351 系列是第一款基于 Arm® Cortex®-M23 的 MCU,同时获得 PSA Certified™ Level 1 (2019 年 2 月)、Level 2 (2020 年 7 月)和 PSA Functional API 认证 (2019 年 2 月)。

M2354 系列产品完善了对 FreeRTOS、RT-Thread 和 Mbed OS 6.x 的全面支持,可轻松实现物联网设备及其与各种云服务的连接

MA35D1 系列引入可信安全岛 (Trusted Secure Island) 技术,作为微处理器的安全子系统,为一系列嵌入式和物联网应用提供信息安全保障。

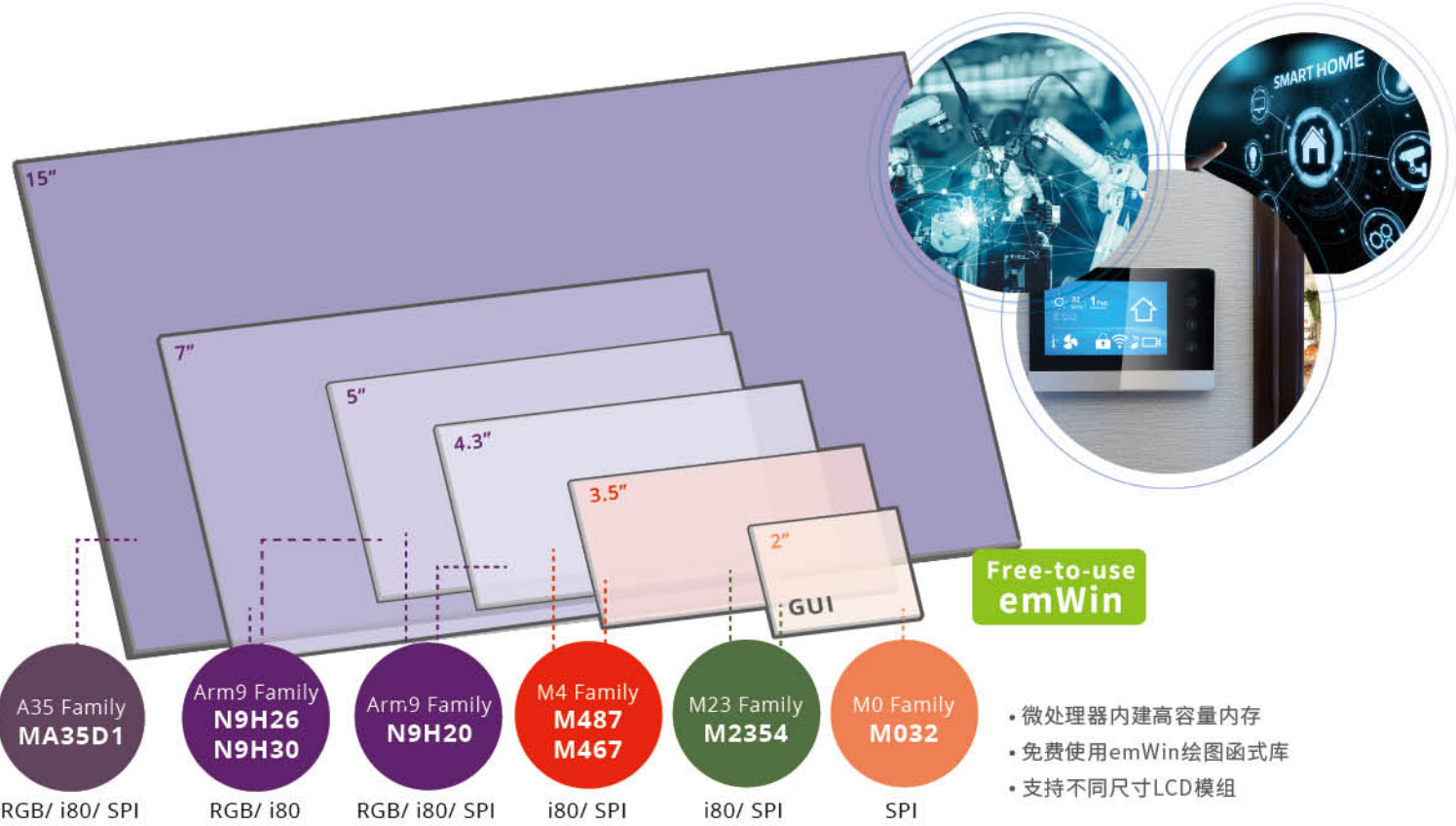
目标应用:智能家居、智能城市、智能建筑、智能交通、智能农业、智能计量、环境监控 (CCTV)、移动POS、物联网节点设备、物联网网关。

Security Technology	Item	NuMicro Series Recommendation					
		M251	M261	M2351	M2354	M480	M460
安全启动 (Secure Boot ROM)	Secure Bootloader (based on ECDSA signature)		✓	✓	✓	✓	✓
	Secure Firmware Update (FOTA)		✓	✓	✓		
	Driver APIs		✓	✓	✓	✓	✓
	Debug Authentication (temporarily unlock)			✓	✓		
安全参考代码 编程代码库 软件工具	TrustZone reference code			✓	✓		
	Key Generation Tool		✓	✓	✓		✓
	Firmware Image Signing Tool		✓	✓	✓		✓
	Key/Certificate provisioning service		✓	✓	✓		
安全隔离 (Isolation)	Peripheral privileged mode			✓	✓		
	TrustZone partition for Cortex-M			✓	✓		
	Flash Lock (read protection)	✓	✓	✓	✓	✓	✓
闪存保护	eXecute Only Memory	✓	✓	✓	✓	✓	✓
	Dual Bank (with bank remapping)		✓	✓	✓		✓
	Flash Write Protection		✓	✓	✓	✓	
	DES/3DES		✓	✓			
加密处理器	AES-256	✓	✓	✓	✓	✓	✓
	AES with CCM, GCM and GMAC modes				✓		✓
	ECC (key generation, ECDH-ECDSA)		✓	✓	✓	✓	✓
	RSA-4096				✓		✓
	Side Channel Attacks mitigation of AES, RSA, ECC				✓		
	SHA1/SHA2-384		✓	✓	✓	✓	✓
	SHA2-512, HMAC-512				✓	✓	✓
	SM2/3/4 (Chinese national cryptography standard)				✓		
	TRNG + PRNG		✓	✓	✓	✓	✓
	Cryptographic KeyStore (secure key storage)				✓		✓
设备唯一标识	Unique ID	✓	✓	✓	✓	✓	✓
	Customer Unique ID	✓	✓	✓	✓	✓	✓
系统层级防篡改机制	Tamper Pin Detection	✓	✓	✓	✓	✓	✓
	RTC backup registers	✓	✓	✓	✓	✓	✓
环境监测传感器	Temperature sensor	✓	✓	✓	✓	✓	✓
	Clock monitor	✓	✓	✓	✓	✓	✓
	Voltage glitch detection				✓		
平台安全	Booting Status Monitor			✓	✓		
	Life Cycle Management			✓	✓		
	Firmware Version Counter			✓	✓		
	Debug Port Management (DPM)			✓	✓		

新唐提供丰富的 GUI 平台资源，支持 SEGGER emWin、LVGL、Altia 和 Qt 绘图函式库，协助工程师开发现代化的 UI。此外，也提供强大的PC GUI 工具SEGGER AppWizard，用于构建嵌入式GUI。它易于使用，显著节省开发时间，并且可以免费用于您的 HMI 产品。

新唐微处理器内建大容量内存，降低电路设计难度及制造成本。支持单色、灰阶、彩色的 OLED 和 LCD 等多样性显示屏幕，分辨率可达 1024 x 768 及显示 1670 万色阶，及内建 2D 图形硬体加速器，以及 H.264、JPEG 硬体编解码器，加快图形处理效能，带来流畅的使用体验。开发者可以根据需求选择 Non-OS、RTOS 或 Linux 为操作系统。

新唐 GUI 平台适用于工业控制、智慧楼宇、智慧家电、医疗设备、充电桩、手持便携设备等以及各领域的 HMI 需求。



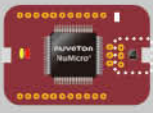
	内核 工作主频 (MHz)	内存大小	闪存大小	显示屏尺及 显示界面寸	硬件加速器	开发版本号	板载显示屏尺寸 (分辨率)
MA35D1 系列	Dual Cortex-A35 800 MHz	MCP DDR 128/256/512 MB	External	1920x1080 RGB/ SPI/ i80	2D GFx JPEG decoder H.264 decoder	NuMaker-HMI- MA35D1-S1	7" (1024x600)
N9H30 系列	Arm9 300 MHz	MCP DDR 64/128 MB	External	1024x768 RGB/ SPI/ i80	2D GFx JPEG Codec	NuMaker-HMI- N9H30	7" (800x480)
N9H26 系列	Arm9 240 MHz	MCP DDR 64 MB	External	1024x768 RGB/ SPI/ i80	2D GFx JPEG Codec H.264 Codec	NuMaker-HMI- N9H26	5" (800x480)
N9H20 系列	Arm9 200MHz	MCP DDR 2/8/32 MB	External	1024x768 RGB/ SPI/ i80	2D GFx JPEG Codec	NuMaker-HMI- N9H20	4.3" (480x272)
M460 系列	Cortex-M4 200 MHz	512 KB	1024 KB	480x272 SPI/ i80	N/A	NuMaker-HMI- M467	4.3" (480x272)
M480 系列	Cortex-M4 192 MHz	160 KB	512 KB	480x272 SPI/ i80	N/A	NuMaker-HMI- M487	3.2" (320x240)
M2354 系列	Cortex-M23 96 MHz	256 KB	1024 KB	320x240 SPI/ i80	N/A	NuMaker-HMI- M2354	2.4" (320x240)
M032 系列	Cortex-M0 72 MHz	96 KB	512 KB	320x240 SPI/ i80	N/A	NuMaker-HMI- M032	2.4" (320x240)

- 智能家电提高生活质量, 已成为未来趋势。新唐 MCU 整合了智能家电系统的需求, 提供 2.5V ~ 5.5V 宽工作电压、超过 0.5 mm 宽引脚间距的封装、IEC-60730 B 级的 STL 自检和功能安全软件库等关键特性以及针对 ESD (静电放电) 和 EFT (电快速瞬变脉冲群) 提供更强的抗干扰保护电路。新唐 MCU 还可透过双区域 (Dual Bank) 或利用 LDR0M 执行在线刻录 (ISP), 支持固件空中升级 (FOTA)。新唐人机界面 (HMI) MCU 具有高抗干扰特性, 触控键拥有防水与抗干扰的能力, 在 2 mm 深度的积水下触控按键动作仍正常。具备电荷泵以及内部电阻分压驱动 LCD 方式, 电荷泵用以确保电池电压降低的情况下 MCU 仍能使 LCD 对比度保持一致。
- 新唐针对智能家电提供丰富的产品组合, 产品线包括 8051 的 MS51 和 ML51 系列、Cortex-M0 的 M071、M032 和 M031BT/ M032BT 系列、Cortex-M23 的 M251/ M252、M254/ M256/ M258 和 M2354 系列、Cortex-M4 的 M471、M480 和 M460 系列、ARM9 的 N9H 系列和 Cortex-A35 及 Cortex-M4 的 MA35D1 系列。
- 新唐 MCU 具多功能的特色, 可支持多种周边, 满足智能家电各种应用。
 - 单主控的 MS51、ML51、M251/ M252、M071 和 M471 系列
 - 带 COM/SEG LCD 显示的 ML54 和 M254 系列
 - 带 TFT LCD 显示的 M032、M2354、M480、M460、N9H 和 MA35D1 系列
 - 触控键带 COM/SEG LCD 的 ML56 和 M256/ M258 系列
 - 无线控制带 CIR (红外接收) 的 M471 系列
 - 无线控制带 BLE5.0 的 M031BT 及 M032BT 系列
- 产品应用: 智能小家电、白色家电、健康护理家电、智能家居。

家用电器	MS51/ ML51	M251/ M252	M071	M471	ML54/ ML56	M254/ M256/ M258	M032	M2354	M480	M460	N9H	MA35D1	M031BT/ M032BT
应用	主控	主控	主控	主控	显示 + 触控	显示 + 触控	显示	显示	显示	显示	显示	显示	蓝牙
核心	8051-1T	Cortex-M23	Cortex-M0	Cortex-M4	8051-1T	Cortex-M23	Cortex-M0	Cortex-M23	Cortex-M4	Cortex-M4	Arm9	Dual Cortex-A35 + M4	Cortex-M0
工作主频 (MHz)	24	48	50 / 72	72 / 120	24	48	72	96	192	200	200 / 240 / 300	1 GHz / 180 MHz	48 / 72
闪存 (KB)	8 / 16 / 32	32 / 64 / 128 / 256	64 / 128 / 256	64 / 128 / 256	64	64 / 128 / 256	512	1024	512	1024	External	External	64 / 128 / 256 / 512
SRAM (KB)	1 / 1.2 / 2	8 / 16 / 32	8 / 16 / 20	32 / 64	4	8 / 16 / 32	96	256	160	512	2 / 8 / 32 / 64 / 128MB	128 / 256 / 512MB	8 / 16 / 64 / 96
工作电压 (V)	2.5 ~ 5.5	1.8 ~ 5.5	2.5 ~ 5.5	2.5 ~ 5.5	1.8 ~ 3.6	1.75 ~ 5.5	1.8 ~ 3.6	1.7 ~ 3.6	1.8 ~ 3.6	1.7 ~ 3.6	3.0 ~ 3.6	3.0 ~ 3.6	1.8 ~ 3.6
IEC-60730 B 级 STL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
显示					COM/SEG LCD 8x28	COM/SEG LCD 8x44	TFTLCD 3.5" 320x240	TFTLCD 3.5" 320x240	TFTLCD 4.3" 320x240	TFTLCD 5" 480x272	TFTLCD 7" 1024x768	TFTLCD 15" 1920x1080	
触控键					✓ 14	✓ 15 / 24							
低功耗	✓ (ML51)	✓			✓	✓		✓					
BLE 5.0													✓
红外接收				✓									
引脚 宽度	0.5mm Pin Pitch	✓	✓	✓	✓	✓			✓	✓			
	0.65mm Pin Pitch	✓	✓										
	0.8mm Pin Pitch	✓		✓	✓	✓	✓						

NuDeveloper Ecosystem - Make the Engineers' Job Easier

新唐科技提供完整的开发工具平台，协助客户实现快速开发、批量生产以及轻松升级。

 开发板 (NuMaker)	● NuMaker 系列 ◦ 内建丰富周边，可快速实践你的创意 ◦ 适用于一般产品开发 ◦ 板上内建除错器与烧录器 ● 特殊应用 ◦ 专为 DALI/ IoT/ HMI/ Touch key/ COM/ SEG LCD 设计的开发工具
 仿真器與烧录器 (Nu-Link)	● 一对一仿真器與烧录器 Nu-Link 除错器系列是一款 USB 仿真器與烧录器，可对 NuMicro® 家族微控制器进行烧录与在线除错，可用按钮触发离线编程。 ● 量产烧录器 Nu-Link-Gang 刻录器是新一代的量产型刻录器，支持新唐广泛的微控制器产品线，Nu-Link-Gang 提供可选择的刻录电压、并可一次对四种不同型号的目标芯片进行刻录，还可透过预留接口与 机台或治具连接，非常适合自动化机台与治具使用。
 软体工具 (NuTool)	● 烧录工具 ◦ ICP Tool 具有代码加密功能的量产编程工具，可保护客户的智慧财产。 ◦ ISP Tool 提供用于最终产品固件更新的示例代码。 ◦ Nu-Link Command 支持同时烧录16个目标芯片。 ● 通用工具 ◦ PinConfigure Tool 提供开发初期选择管脚功能的规划工具，适用于所有 NuMicro® 家族微控制器。 ◦ PinView Tool PinView 是一个可视化的管脚状态检视工具。在程序运行或调试时，能直观地显示管脚 IO 状态，并能对一些常见的管脚设定错误给出警告。 ◦ Clock Configure Tool 提供开发初期各模组时钟频率的规划工具，适用于所有 NuMicro® 家族微控制器。 ◦ CodeGenerator Tool 快速生成 NuMicro M251/ M252/ NUC126 专案之初始程式代码，含初始版本之周边、管脚与时钟设置。 ● 特殊应用工具 ◦ DALIController 支持监控和纪录 DALI bus 沟通和发送命令 LCDView。 ◦ LCDView 可规划客制化的 LCD 面板与 COM/ SEG 表格，并模拟COM/ SEG 即时状态。 ◦ TouchView 支持调整参数和校准 Touch key 系统。 ◦ NuEdgeWise IDE 提供用于训练 TinyML Model 的机器学习开发工具。
 Embedded Software 开发板软件开发包 (BSP)与范例代码	● 开发板软件开发包 (BSP) 提供丰富的示例代码，包含 Device usage, USB Device Classes, CAN, 以太网等。 新唐科技制定统一的API名称，客户可以轻松开发或移植 NuMicro 开发项目。 ● 范例代码 提供丰富的应用范例，包含 Audio codec, LED lighting, Fan speed detect, Modbus, SPI flash and EEPROM, Power detection, Temperature detection, etc.
 集成开发环境(IDE) & 驱动程序	为客户提供多种集成开发环境 (IDE) ● Arm Keil ◦ 免费使用于 Cortex-M0/ M0+/ M23 NuMicro 芯片开发专案。 ◦ 提供 Cortex-M4/ M7 NuMicro 芯片开发专案特定优惠价格。 ● IAR Embedded Workbench 32KB 用于 Cortex-M0/ M4/ M23 NuMicro 芯片开发专案。 ● NuEclipse within the GNU Eclipse framework 内建 GNU Eclipse 架构，可免费用于 Cortex-M0/ M4/ M23 NuMicro 芯片开发专案。

作为微控制器平台提供商，新唐科技一直致力于通过我们的数字平台为全球客户提供支持。新唐科技的数字平台可以满足产品选型、查找与下载产品资源、产品购买、联系销售与技术支持，以及获取产品知识、教学视频等各种需求。



缩写和代码列表

规格简称 / 代码		描述
ACMP		Analog Comparator 模拟比较器控制器
EMAC		Ethernet MAC 以太网控制器
LP UART		Low-power UART 低功耗 UART
OPA		OP Amplifier 运算放大器
PDMA		Peripheral Direct Memory Access 直接存储器存取
QSPI		Quad SPI 全双工同步串行数据通讯接口
RTC		Real-Time Clock 实时时钟
RTC (V _{BAT})		关闭电源或处于掉电模式时, 可以通过 V _{BAT} 引脚为实时时钟 (RTC) 供电。
SPI Master		SPI 主机, 支持 SPI 主机协议
USB	USB FS	USB Full Speed USB 全速
	USB HS	USB High Speed USB 高速
	O	On-The-Go (OTG)
	D	USB Device USB设备模式
	H	USB Host USB主机模式
	H/D	可作为USB主机或USB设备, 但非OTG
PSIO		Programmable Serial I/O 可编程 I/O 串行接口
VAI		Voltage Adjustment Interface 电压调整接口
USCI		Universal Serial Control Interface Controller 通用串行接口, 可灵活设置为UART、SPI 或 I ² C
XOM		eXecute-Only Memory 仅执行内存
TSI		Trusted Secure Island 可信安全岛

封装代码	封装	管脚	尺寸 (mm)	Pitch Size (mm)
A	QFN	68	8 x 8	0.4
B	MSOP	10	3 x 3	0.5
C	WLCSP	-	-	-
D	TSSOP	14	4.4 x 5.0	0.65
E	TSSOP	28	4.4 x 9.7	0.65
F	TSSOP	20	4.4 x 6.5	0.65
G	QFN	24	3 x 3	0.4
H	LQFP	176	24 x 24	0.5
H2	LQFP	176	24 x 24	0.5
I	SOP	8	4 x 5 (150 mil)	1.27
J	LQFP	144	20 x 20	0.5
J2	LQFP	144	20 x 20	0.5
K	LQFP	128	14 x 14	0.4
K1	LQFP	128	14 x 20	0.5
K2	LQFP	128	14 x 14	0.4
L	LQFP	48	7 x 7	0.5
M	LQFP	44	10 x 10	0.8
N	QFN	48	7 x 7	0.5
O	SOP	20	7.6 x 13 (300 mil)	1.27
P	LQFP	32	7 x 7	0.8
R	LQFP	64	10 x 10	0.5
R1	LQFP	64	14 x 14	0.8
S	LQFP	64	7 x 7	0.4
S2	LQFP	64	7 x 7	0.4
T	QFN	33	4 x 4	0.4
U	SOP	28	7.6 x 18.1 (300 mil)	1.27
V	LQFP	100	14 x 14	0.5
V1	LQFP	100	14 x 20	0.65
W	Wafer	-	-	-
X	QFN	20	3 x 3	0.4
			4 x 4	0.5
Y	QFN	48	5 x 5	0.35
Z	QFN	33	5 x 5	0.5

NuMicro® Family Arm® Cortex®-A35 MPUs

高效能边缘工业物联网系列

NuMicro® MA35 家族是基于 Armv8-A 架构 64 位 Arm® Cortex-A35 内核，并搭载一颗 Arm Cortex-M4 的微处理器。NuMicro® MA35 家族支持 TrustZone 安全科技，适用于高端工业控制、Edge IIoT Gateway 和 HMI 等应用。

MA35 家族提供多核心架构，以同时满足高效能与实时性控制的需求。MA35 家族可支持 16 位的 DDR2/ DDR3 和 DDR3L SDRAM。MA35 家族提供了 LQFP 和 BGA 两种封装，并堆栈 DDR2/ DDR3L SDRAM，最大容量达 512 MB，能够减少 PCB 层数、面积、以及降低电磁干扰等，让系统设计与生产更加容易。

MA35 家族也提供了丰富的功能及外设接口，如进阶的安全性功能，新唐可信安全岛 TSI (Trusted Secure Island)，千兆以太网、SDIO3.0 主机控制器、高速 USB2.0 控制器和 CAN FD 等用于高速连接的能力。它同时还配备了 LCD 控制器、2D 图形加速器、JPEG 和 H.264 解码器等用于图形人机接口应用。此外，也提供完整的发展生态系统，以缩短在嵌入式 Linux 系统的开发时间。

MA35D1 系列

NuMicro® MA35D1 系列为一颗异核同构的多核心微处理器，适用于高端 Edge IIoT Gateway。它是基于双核 64 位 Arm® Cortex®-A35 内核，执行速度可达 800 MHz，并搭载一颗 180 MHz Arm® Cortex®-M4 内核。基于此高性能内核，MA35D1 系列有助于 Tiny AI/ML 边缘运算。MA35D1 系列支持 16 位 DDR2/ DDR3 和 DDR3L SDRAM。为了简化系统设计和生产，MA34D1 系列提供了 LQFP 和 BGA 两种封装，并堆栈 DDR2/ DDR3L SDRAM，最大容量达 512 MB，能够显著的减少 PCB 层数、面积、以及降低电磁干扰。

MA35D1 系列是一个可信任的系统，可以满足物联网产品的安全需求。它包括多个进阶的安全机制，例如新唐可信安全岛 TSI (Trusted Secure Island) 一个独立的安全硬件单元、TrustZone、安全启动 (secure boot)、篡改检测、内建 AES、SHA、ECC、RSA 和 SM2/3/4 加解密加速器、及一个真随机数产生器 (TRNG)，并包含密钥储存 (Key Store) 和一次性存储器 (OTP memory)。所有安全相关的操作都在可信安全岛 TSI 中执行，保护具有敏感性和高价值的数据。这些安全特性也可以满足客户在 IEC 62443 认证方面的要求。

为满足高端 Edge IIoT Gateway 需求，MA35D1 系列集成 PDMA，其能够直接存取系统内存，无需 CPU 介入提升系统性能。同时，MA35D1 系列提供多组进阶和高速的通讯接口，如千兆以太网、SDIO3.0、高速 USB 2.0、CAN FD 等，可以应用于高端 Edge Gateway 及新能源等应用需求。

于人机接口应用，MA35D1 系列提供 LCD 显示控制器，分辨率可达 1920 x 1080 每秒 60 帧，及一个 2D 图形加速器、JPEG 和 H.264 译码器等，带来更好的图形人机接口效果和视频播放。

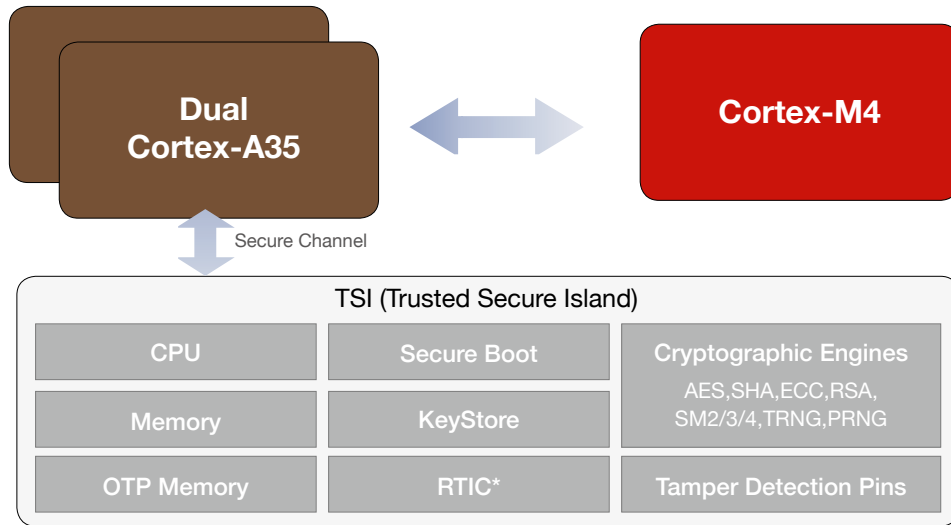
开机来源：SPI NOR、SPI NAND、NAND、SD、eMMC、USB

应用领域：边缘网关、轻量级人工智能 / 机器学习、人机接口 & 工业控制、新能源应用

Part No.	Package	MCP DDR	Ethernet	Temper Pins	EADC	GPIOs
MA35D16F787C	LQFP216	128 MB	100M + 1000M 以太网	-	-	154
MA35D16F887C	LQFP216	256 MB	100M + 1000M 以太网	-	-	154
MA35D16F987C	LQFP216	512 MB	100M + 1000M 以太网	-	-	154
MA35D16A887C	BGA312	256 MB	2x 1000M 以太网	√	√	208
MA35D16A087C	BGA364	-	2x 1000M 以太网	√	√	208

关键特性：双核 Cortex-A35 高效能核心、一颗 Cortex-M4 实时处理核心、堆栈工业等级 DDR 于 LQFP 及 BGA 封装、进阶安全性新唐可信安全岛 TSI、1080P 显示、2D 图形硬体加速器、JPEG & H.264 译码器、二组千兆以太网、二组高速 USB、一组 SD3.0、四组 CAN FD

新唐创新的安全子系统用于 MA35D1 微处理器



MA35D1 系列是一个可信任的系统，可以满足物联网产品的安全需求

新唐可信安全岛 TSI 是一个隔离的安全硬件单元，其运行不受 MA35D1 主系统的影响。

内建多项安全功能，帮助实现多面项安全机制：

- **软体执行安全**
安全启动、TrustZone、运行时完整性检查 (RTIC/ Run-Time Integrity Checker)
- **通讯安全**
真随机数生成器 (TRNG)、伪随机数生成器 (PRNG)、硬件加密引擎
- **芯片存储安全**
安全密钥存储 (KeyStore)、一次性存储器 (OTP Memory) 硬件加密引擎无需 CPU 干预即可访问
- **系统安全**
篡改引脚 (Tamper pins) 可用于产品被破坏入侵检测

客户可以轻松地利用可信安全岛 TSI 的安全环境和功能来实现保护、检测和恢复等安全机制在物联网设备。

Part No.	System						Memory		Memory Interface	Timer			Analog	Connectivity										Display			TSI	Security	Package		Status	Tool					
	Core	Real-Time Processor (RTIP)	Operating Frequency (MHz)	Operating Temperature (min)(°C)	Operating Temperature (max)(°C)	GPIO	SRAM (KB)	DDR(MB)	PDMA (ch)	SDRAM Interface	Timer/PWM	Enhanced PWM (EPWM) (16-bit)	Enhanced Capture (ECAP)	Quadrature Encoder Interface (QEI)	Enhanced ADC (EADC)(12-bit)	Low-power UART (LPUART)	ISO-7816-3	Quad SPI (QSPI)	SP/PS	PS	CAN FD	Secure Digital Host Controller (SDHC)	USB HS Device/ Host	Ethernet 10/100 Mbps	Ethernet 10/100/1000 Mbps	External Bus Interface (EBI)	Camera Interface	TFT-LCD Interface	2D Graphics Engine	Video Codec	Trusted Secure Island (TSI)	Tamper Detection Pin	Package Type	Package Size	Mass Production	EVB	
MA35D16F787C	Cortex-A35 Dual	Cortex-M4	800	-40	85	154	256 + 128	128	40	-	10	18	3	3	8	-	17	2	2	6	4	2	4	2	1	1	1	1	✓	24 bit	✓	✓	-	LQFP 216-EP	24 x 24	2022Q4	-
MA35D16F887C	Cortex-A35 Dual	Cortex-M4	800	-40	85	154	256 + 128	256	40	-	10	18	3	3	8	-	17	2	2	6	4	2	4	2	1	1	1	✓	24 bit	✓	✓	-	LQFP 216-EP	24 x 24	2023Q1	NK-IMA 35D1A1	
MA35D16F987C	Cortex-A35 Dual	Cortex-M4	800	-40	85	154	256 + 128	512	40	-	10	18	3	3	8	-	17	2	2	6	4	2	4	2	1	1	1	✓	24 bit	✓	✓	-	LQFP 216-EP	24 x 24	2022Q4	NK-IMA 35D1A1	
MA35D16A887C	Cortex-A35 Dual	Cortex-M4	800	-40	85	208	256 + 128	256	40	-	12	18	3	3	8	8	17	2	2	6	4	2	4	2	1	1	-	2	✓	24 bit	✓	✓	2	BGA 312	15 x 15	2022Q4	NK-HMA 35D1S1
MA35D16A087C	Cortex-A35 Dual	Cortex-M4	800	-40	85	208	256 + 128	-	40	✓	12	18	3	3	8	8	17	2	2	6	4	2	4	2	1	1	-	2	✓	24 bit	✓	✓	2	BGA 364	14 x 14	2022Q4	-

新唐 NuMicro® Arm® Cortex®-M4 微控制器家族

新唐 NuMicro® Arm® Cortex®-M4 微控制器家族运行于 72 MHz 至 200 MHz，提供高达 90 DMIPS 至 240 DMIPS 的高性能系统设计，在 M480 系列，当系统由内置 Flash 运行时，其动态功耗更可低至 130 μ A/MHz。

新唐 NuMicro® Arm® Cortex®-M4 微控制器家族由以下产品系列组成：

M460 系列：200 MHz 工作主频、多达 1024 KB 双区块 (Dual bank) Flash 内存、多达 512 KB SRAM、支持安全启动 (secure boot)、硬件密钥管理 (key store)、音频 PLL (programmable audio PLL)、HyperBus 接口 (HyperBus interface)、PSIO 接口 (programmable serial I/O)、EBI 接口 (external bus interface)，以及支持 XIP 就地执行功能 (eXecute-In-Place) 的 SPI Master 接口

M463 子系列 – 两组 CAN FD、高速 USB OTG 带片上 PHY

M467 子系列 – 10/100 兆以太网 MAC、硬件加解密引擎、四组 CAN FD、高速 USB OTG 带片上 PHY、全速 USB OTG 带片上 PHY

M480 系列：192 MHz 工作主频、多达 512 KB 双区块 (Dual bank) Flash、多达 160 KB SRAM、EBI 接口 (external bus interface)，以及支持 XIP 就地执行功能 (eXecute-In-Place) 的 SPI Master 接口

M481 子系列 – 基础型

M482 子系列 – 全速 USB OTG 带片上 PHY

M483 子系列 – 二组或三组 CAN 2.0B、高速 USB OTG 带片上 PHY、全速 USB OTG 带片上 PHY

M484 子系列 – 高速 USB OTG 带片上 PHY、全速 USB OTG 带片上 PHY

M485 子系列 – 硬件加解密引擎、高速 USB OTG 带片上 PHY、全速 USB OTG 带片上 PHY

M487 子系列 – 10/100 兆以太网 MAC、硬件加解密引擎、两组 CAN 2.0B、高速 USB OTG 带片上 PHY、全速 USB OTG 带片上 PHY

M471 系列：72/120 MHz 工作主频、多达 512 KB 双区块 (Dual bank) Flash、多达 64 KB SRAM、内建独立 32 Kbytes data Flash，支持宽管脚间距封装，以及提供经认证的 IEC60730-1 Class B Software Test Library (STL) 软件库

M471 V/K 子系列 – 2 Msps、12 位、高达 24 通道的 SAR ADC 跟硬件 Customize IR receiver 接口

M471 M/R1/S 子系列 – 1 Msps、12 位、高达 16 通道的 SAR ADC、全速 USB Host/Device 带片上 PHY

M451 系列：72 MHz 工作主频、多达 256 KB Flash、多达 32 KB SRAM、Quad-SPI 接口

M451 子系列 – 基础型

M452 子系列 – 全速 USB OTG 带片上 PHY

M453 子系列 – 全速 USB OTG 带片上 PHY、CAN 2.0B 接口

M460 系列

NuMicro® M460 系列是基于 Arm® Cortex®-M4F 核心的 32 位微控制器系列，支持 DSP 指令集与 FPU 浮点运算单元。目标 IoT 网关、工业控制、电信与数据中心等市场应用。M460 系列支持高达 200 MHz 工作频率、高达 1024 KB 双区块 Flash 内存、高达 512 KB SRAM、1.7V 到 3.6V 宽工作电压、-40° C 到 +85° C/+105° C 宽工作温度、多种封装选择以及高抗干扰特性 ESD HBM 2 kV 跟 EFT 4.4 kV。

目标应用：IoT 市场如网关，消费类电子市场如扫地机器人，电竞市场如鼠标、键盘，工控市场如 CAN 转接盒

M460 系列	全速 USB	高速 USB	CAN FD	硬件加解密	以太网
M467 Ethernet/Crypto 系列	√	√	√	√	√
M463 CAN FD/USB HS 系列		√	√	AES	

关键特性：硬件密钥管理 (Key Store)、CAN FD 接口、音频 PLL (programmable audio PLL)、PSIO 接口 (programmable serial I/O)、10/100 兆以太网 MAC、安全启动 (secure boot)、硬件加解密引擎、TRNG 随机数产生器、PRNG 随机数产生器、高速 USB OTG、全速 USB OTG、Intel 8080 EBI 接口、HyperBus 接口、3 组 12 位 5 Msps ADC、4 组模拟比较器、4 组 EQEI 接口、摄像头接口、ICP/ IAP/ ISP 刻录

Part No.	System							Memory			Timer	Analog		Connectivity														Security		Crypto	Display	Package		Status	Tool							
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer (32-bit)	RTC	EADC (12-bit)	DAC (12-bit)	ACMP	LPUART	ISO-7816	QSPI	PC	USCI	SPI/PS	SPIM	PS	CAN FD	SDHC	PSIO	USB FS OTG	USB HS OTG	EMAC	EBI	TRNG	XOM	Key Store	Crypto	Camera Interface	Keypad Interface	Package Type	Package Size	Mass Production	EVB	MP Programmer
M467SJHAN	Cortex-M4	200	1.7	3.6	-40	85	44	8	1024	512	32	4	✓	20	2	4	9	3	2	5	1	4	1	2	4	2	4	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 64	7x7	✓	NK-M467HJ	NLG-64S
M467KJHAN	Cortex-M4	200	1.7	3.6	-40	85	100	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 128	14x14	✓	NK-M467HJ	NLG-128K
M467JJHAN	Cortex-M4	200	1.7	3.6	-40	85	114	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 144	20x20	✓	NK-M467HJ	NLG-144J
M467HJHAN	Cortex-M4	200	1.7	3.6	-40	85	146	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 176	24x24	✓	NK-M467HJ	NLG-176H
M467S2JHAE	Cortex-M4	200	1.7	3.6	-40	105	44	8	1024	512	32	4	✓	20	2	4	9	3	2	5	1	4	1	2	4	2	4	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 64	7x7	✓	NK-M467HJ	NLG-64S
M467K2JHAE	Cortex-M4	200	1.7	3.6	-40	105	100	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 128	14x14	✓	NK-M467HJ	NLG-128K
M467J2JHAE	Cortex-M4	200	1.7	3.6	-40	105	114	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 144	20x20	✓	NK-M467HJ	NLG-144J
M467H2JHAE	Cortex-M4	200	1.7	3.6	-40	105	146	8	1024	512	32	4	✓	28	2	4	10	3	2	5	1	4	1	2	4	2	8	1	1	1	✓	✓	✓	✓	✓	✓	6x8	LQFP 176	24x24	✓	NK-M467HJ	NLG-176H
M463KGCAE	Cortex-M4	200	1.7	3.6	-40	105	100	8	256	128	16	4	✓	16	-	2	8	1	2	5	1	4	-	-	2	1	-	-	1	-	✓	✓	✓	✓	AES	-	6x8	LQFP 128	14x14	✓	NK-M463KG	NLG-128K
M463SGCAE	Cortex-M4	200	1.7	3.6	-40	105	44	8	256	128	16	4	✓	16	-	2	8	1	2	5	1	4	-	-	2	1	-	-	1	-	✓	✓	✓	✓	AES	-	6x8	LQFP 64	7x7	✓	NK-M463KG	NLG-64S
M463LGCAE	Cortex-M4	200	1.7	3.6	-40	105	33	8	256	128	16	4	✓	12	-	2	8	1	2	5	1	4	-	-	2	1	-	-	1	-	✓	✓	✓	✓	AES	-	6x8	LQFP 48	7x7	✓	NK-M463KG	NLG-48L
M463YGCAE	Cortex-M4	200	1.7	3.6	-40	105	33	8	256	128	16	4	✓	12	-	2	8	1	2	5	1	4	-	-	2	1	-	-	1	-	✓	✓	✓	✓	AES	-	6x8	QFN 48	5x5	✓	NK-M463KG	NLG-48Y

M480 系列

NuMicro® M480 系列是基于 Arm® Cortex®-M4F 核心的 32 位微控制器系列，支持 DSP 指令集与 FPU 浮点运算单元。目标 IoT 网关、工业控制、电信与数据中心等市场应用。M480 系列支持高达 192 MHz 工作频率、高达 512 KB 双区块 Flash 内存、高达 160 KB SRAM、1.8V 到 3.6V 宽工作电压、-40° C 到 +105° C 宽工作温度、多种封装选择以及高抗干扰特性 ESD HBM 2 kV 跟 EFT 4.4 kV。

目标应用：IoT 市场如串口服务器，工控市场如储能系统，消费类电子市场如卷标打印机，电竞市场如游戏手柄

M480 系列	全速 USB	高速 USB	CAN 2.0B	硬件加解密	以太网
M481 基础型 系列					
M482 USB FS 系列	√				
M483 CAN 2.0B 系列	√	√	√		
M484 USB HS 系列	√	√			
M485 Crypto 系列	√	√		√	
M487 Ethernet 系列	√	√	√	√	√

关键特性：10/100 兆以太网 MAC、安全启动 (secure boot)、硬件加解密引擎、TRNG 随机数产生器、PRNG 随机数产生器、CAN 2.0B 接口、高速 USB OTG、全速 USB OTG、Intel 8080 EBI 接口、高达 2 组 12 位 5 Msps ADC、2 组模拟比较器、2 组 EQEI 接口、摄像头接口、ICP/ IAP/ ISP 刻录

Part No.	System							Memory			Timer			Analog			Connectivity										Security	Crypto	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (Kb)	APROM Flash (Kb)	SRAM (Kb)	PDMA (ch)	Timer (32-bit)	BPWM (16-bit)	EPWM (16-bit)	RTC	EADC (12-bit)	DAC (12-bit)	ACMP	LPUART	QSPI	I2C	USCI	SPI/I2S	CAN	SDHC	Camera Interface	USB FS OTG	USB HS OTG	EMAC	PRNG	Crypto	Package Type	Package Size	Mass Production	EVB	MP Programmer
M487KMCAN	Cortex-M4	192	1.8	3.6	-40	85	114	4	2560	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	1	1	1	✓	✓	LQFP 144	20x20	✓	NK-M487KM	NLG-144J
M481LIDAE	Cortex-M4	192	1.8	3.6	-40	105	41	4	512	160	16	4	12	12	✓	12	2	2	6	1	3	2	3	-	2	-	-	-	-	-	-	LQFP 48	7x7	✓	NK-BEDM487	NLG-48L
M481SIDAE	Cortex-M4	192	1.8	3.6	-40	105	52	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	-	-	-	-	-	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M481ZIDAE	Cortex-M4	192	1.8	3.6	-40	105	26	4	512	160	16	4	12	12	✓	10	2	2	6	1	3	2	3	-	1	-	-	-	-	-	-	QFN 33	5x5	✓	NK-BEDM487	NLG-32Z
M482KIDAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	1	-	-	-	-	LQFP 128	14x14	✓	NK-BEDM487	NLG-128K
M482LIDAE	Cortex-M4	192	1.8	3.6	-40	105	41	4	512	160	16	4	12	12	✓	12	2	2	6	1	3	2	3	-	2	-	1	-	-	-	-	LQFP 48	7x7	✓	NK-BEDM487	NLG-48L
M482SIDAE	Cortex-M4	192	1.8	3.6	-40	105	52	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	1	-	-	-	-	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M482ZIDAE	Cortex-M4	192	1.8	3.6	-40	105	26	4	512	160	16	4	12	12	✓	10	2	2	6	1	3	2	3	-	1	-	1	-	-	-	-	QFN 33	5x5	✓	NK-BEDM487	NLG-32Z
M483KIDAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	1	1	-	-	-	LQFP 128	14x14	✓	NK-BEDM487	NLG-128K
M483SIDAE	Cortex-M4	192	1.8	3.6	-40	105	44	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	-	1	-	-	-	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M484KIDAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	1	1	-	-	-	LQFP 128	14x14	✓	NK-BEDM487	NLG-128K
M484SIDAE	Cortex-M4	192	1.8	3.6	-40	105	44	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	-	1	-	-	-	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M484SIDAE2U	Cortex-M4	192	1.8	3.6	-40	105	44	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	1	1	-	-	-	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M485KIDAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	1	1	-	✓	✓	LQFP 128	14x14	✓	NK-BEDM487	NLG-128K
M485LIDAE	Cortex-M4	192	1.8	3.6	-40	105	41	4	512	160	16	4	12	12	✓	12	2	2	6	1	3	2	3	-	2	-	1	-	-	✓	✓	LQFP 48	7x7	✓	NK-BEDM487	NLG-48L
M485SIDAE	Cortex-M4	192	1.8	3.6	-40	105	44	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	-	2	-	-	1	-	✓	✓	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M485YIDAE	Cortex-M4	192	1.8	3.6	-40	105	40	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	3	2	1	-	1	-	-	-	✓	QFN 48	5x5	✓	NK-BEDM487	NLG-48Y
M487JIDAE	Cortex-M4	192	1.8	3.6	-40	105	114	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	1	1	1	✓	✓	LQFP 144	20x20	✓	NK-BEDM487	NLG-144J
M487KIDAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	1	1	1	✓	✓	LQFP 128	14x14	✓	NK-BEDM487	NLG-128K
M487SIDAE	Cortex-M4	192	1.8	3.6	-40	105	44	4	512	160	16	4	12	12	✓	16	2	2	6	1	3	2	4	2	2	-	-	1	1	✓	✓	LQFP 64	7x7	✓	NK-BEDM487	NLG-64S
M481LGCAE	Cortex-M4	192	1.8	3.6	-40	105	41	4	256	128	16	4	12	12	✓	12	1	2	8	2	3	-	2	-	1	-	-	-	✓	✓	✓	LQFP 48	7x7	✓	NK-M483KG	NLG-48L
M481SGCAE	Cortex-M4	192	1.8	3.6	-40	105	52	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	-	1	✓	-	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M481SGCAE2A	Cortex-M4	192	1.8	3.6	-40	105	52	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	-	1	✓	-	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M481ZGCAE	Cortex-M4	192	1.8	3.6	-40	105	26	4	256	128	16	4	12	12	✓	10	1	2	8	2	3	-	2	-	1	-	-	-	✓	✓	✓	QFN 33	5x5	✓	NK-M483KG	NLG-32Z
M482KGCAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	-	1	✓	1	-	✓	✓	✓	LQFP 128	14x14	✓	NK-M483KG	NLG-128K
M482LGCAE	Cortex-M4	192	1.8	3.6	-40	105	41	4	256	128	16	4	12	12	✓	12	1	2	8	2	3	-	2	-	1	-	1	-	✓	✓	✓	LQFP 48	7x7	✓	NK-M483KG	NLG-48L
M482SGCAE	Cortex-M4	192	1.8	3.6	-40	105	52	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	-	1	✓	1	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M482ZGCAE	Cortex-M4	192	1.8	3.6	-40	105	26	4	256	128	16	4	12	12	✓	10	1	2	8	2	3	-	2	-	1	-	1	-	✓	✓	✓	QFN 33	5x5	✓	NK-M483KG	NLG-32Z
M483KGCAE	Cortex-M4	192	1.8	3.6	-40	105	100	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	3	1	✓	1	-	✓	✓	✓	LQFP 128	14x14	✓	NK-M483KG	NLG-128K
M483KGCAE2A	Cortex-M4	192	1.8	3.6	-40	105	100	4	256	128	16	4	12	12	✓	24	1	2	8	2	3	-	3	3	1	✓	1	-	✓	✓	✓	LQFP 128	14x14	✓	NK-M483KG	NLG-128K
M483SGCAE	Cortex-M4	192	1.8	3.6	-40	105	52	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	2	1	✓	1	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M483SGCAE2A	Cortex-M4	192	1.8	3.6	-40	105	52	4	256	128	16	4	12	12	✓	16	1	2	8	2	3	-	3	2	1	✓	1	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M481LE8AE	Cortex-M4	192	1.8	3.6	-40	105	41	4	128	64	16	4	12	12	✓	12	1	2	8	2	3	-	2	-	1	✓	-	-	✓	✓	✓	LQFP 48	7x7	✓	NK-M483KG	NLG-48L
M481SE8AE	Cortex-M4	192	1.8	3.6	-40	105	52	4	128	64	16	4	12	12	✓	16	1	2	8	2	3	-	3	-	1	✓	-	-	✓	✓	✓	LQFP 64	7x7	✓	NK-M483KG	NLG-64S
M481ZE8AE	Cortex-M4	192	1.8	3.6	-40	105	26	4	128	64	16	4	12	12	✓	10	1	2	8	2	3	-	2	-	1	✓	-	-	✓	✓	✓	QFN 33	5x5	✓	NK-M483KG	NLG-32Z
M482LE8AE	Cortex-M4	192	1.8	3.6	-40	105	41	4	128	64	16	4	12	12	✓	12	1	2	8	2	3	-	2	-	1	✓	1	-	✓	✓	✓	LQFP 48	7x7	✓	NK-M483KG	NLG-48L

M471 系列

NuMicro® M471 系列是基于 Arm® Cortex®-M4F 核心的 32 位微控制器系列，支持 DSP 指令集与 FPU 浮点运算单元。目标智能家电应用市场跟高速光模块市场。M471 系列支持高达 72/120 MHz 工作频率、高达 512 KB 双区块 Flash 内存、高达 64 KB SRAM、2.5V 到 5.5V 宽工作电压、-40°C 到 +105°C 宽工作温度、宽管脚间距封装选择以及高抗干扰特性 ESD HBM 8 kV 跟 EFT 4.4 kV。

目标应用：洗衣机、冰箱、空调以及各类家电产品

关键特性：独立 32 Kbytes 的数据存储区、电压可调接口 (VAI)、16+16 字节 UART FIFO 用于 TX/RX、1.8 Msps ADC、全速 USB 从设备 / 主设备带片上 PHY、EBI 接口支持 Intel 8080 屏、ICP/ISP/IAP 刻录

Part No.	System							Memory					Timer				Analog			Connectivity				Security	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	DualBank Flash	Data Flash (KB)	SRAM (KB)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	EPWM (16-bit)	RTC	EADC (12-bit)	DAC (8-bit)	ACMP	UART	LPUART	SP/PS	USB FS Device/ Host	PRNG	Package Type	Package Size	Mass Production	EVB	MP Programmer	
M471KI8AE	Cortex-M4	120	2.5	5.5	-40	105	119	4	512	✓	32	64	6	4	-	12	12	✓	24	1	2	-	6	2	2	-	✓	LQFP 128	14x14	✓	NK-M471KI	NLG-128K
M471VI8AE	Cortex-M4	120	2.5	5.5	-40	105	91	4	512	✓	32	64	6	4	-	12	12	✓	23	1	2	-	6	2	2	-	✓	LQFP 100	14x14	✓	NK-M471KI	NLG-100V
M471CI8AE	Cortex-M4	120	2.5	5.5	-40	105	91	4	512	✓	32	64	6	4	-	12	12	✓	24	1	2	-	6	2	2	-	✓	WLCSP 100	4.5x4.5	✓	NK-M471KI	NLG-100C
M471R1E6AE	Cortex-M4	72	2.5	5.5	-40	105	49	4	128	-	Configurable	32	8	4	12	-	-	✓	16	-	-	4	-	2	1	1	-	LQFP 64	14x14	✓	NK-M471R1	NG-M471R1
M471SE6AE	Cortex-M4	72	2.5	5.5	-40	105	49	4	128	-	Configurable	32	8	4	12	-	-	✓	16	-	-	4	-	2	1	1	-	LQFP 64	7x7	✓	NK-M471R1	NG-M471S
M471MD6AE	Cortex-M4	72	2.5	5.5	-40	105	35	4	64	-	Configurable	32	8	4	10	-	-	✓	10	-	-	3	-	2	1	-	-	LQFP 44	10x10	✓	NK-M471R1	NG-M471M

M451 系列

NuMicro® M451 系列是基于 Arm® Cortex®-M4F 核心的 32 位微控制器系列，支持 DSP 指令集与 FPU 浮点运算单元。目标工业控制与消费类电子产品市场。M451 系列支持高达 72 MHz 工作频率、高达 256 KB Flash 内存、高达 32 KB SRAM、2.5V 到 5.5V 宽工作电压、-40°C 到 +105°C 宽工作温度、多种封装选择以及高抗干扰特性 ESD HBM 6 kV 跟 EFT 4.4 kV。

应用领域：工业控制市场如智能电容、消费类电子产品市场如空气清净机

M451 系列	全速 USB	CAN 2.0B
M451 基础型 系列		
M4521 USB FS 系列	√	
M452 USB FS 系列	√	
M453 CAN 2.0B 系列	√	√

关键特性：可配置的数据存储区、电压可调接口 (VAI)、16+16 字节 UART FIFO 用于 TX/RX、1 Msps ADC、全速 USB 从设备 / 主设备 / OTG 带片上 PHY、EBI 接口支持 Intel 8080 屏

Part No.	Core	System							Memory					Timer		Analog		Connectivity							Package		Status	Tool					
		Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	VBAT	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	RTC	EADC (12-bit)	DAC (12-bit)	ACMP	UART	ISO-7816-3	QSPI	PC	SPI/FS	CAN	USB FS Device/ Host		USB FS OTG	EBI	Package Type	Package Size	Mass Production	EVB
M451LC3AE	Cortex-M4	72	2.5	5.5	-40	105	39	✓	4	40	Configurable	16	8	4	12	✓	10	1	2	4	1	1	2	1	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451L
M451LD3AE	Cortex-M4	72	2.5	5.5	-40	105	39	✓	4	72	Configurable	16	8	4	12	✓	10	1	2	4	1	1	2	1	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451L
M451LE6AE	Cortex-M4	72	2.5	5.5	-40	105	39	✓	4	128	Configurable	32	12	4	12	✓	8	1	2	3	1	1	2	2	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451L
M451LG6AE	Cortex-M4	72	2.5	5.5	-40	105	39	✓	4	256	Configurable	32	12	4	12	✓	8	1	2	3	1	1	2	2	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451L
M451MLC3AE	Cortex-M4	72	2.5	5.5	-40	105	42	-	4	40	Configurable	16	8	4	12	-	11	1	2	4	1	1	2	1	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451ML
M451MLD3AE	Cortex-M4	72	2.5	5.5	-40	105	42	-	4	72	Configurable	16	8	4	12	-	11	1	2	4	1	1	2	1	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451ML
M451MLE6AE	Cortex-M4	72	2.5	5.5	-40	105	42	-	4	128	Configurable	32	12	4	12	-	9	1	2	4	1	1	2	2	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451ML
M451MLG6AE	Cortex-M4	72	2.5	5.5	-40	105	42	-	4	256	Configurable	32	12	4	12	-	9	1	2	3	1	1	2	2	-	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M451ML
M451MSC3AE	Cortex-M4	72	2.5	5.5	-40	105	55	-	4	40	Configurable	16	8	4	12	-	13	1	2	4	1	1	2	1	-	-	-	✓	LQFP64	7x7	✓	NT-M451V	NG-M451MS
M451MSD3AE	Cortex-M4	72	2.5	5.5	-40	105	55	-	4	72	Configurable	16	8	4	12	-	13	1	2	4	1	1	2	1	-	-	-	✓	LQFP64	7x7	✓	NT-M451V	NG-M451MS
M451RC3AE	Cortex-M4	72	2.5	5.5	-40	105	53	✓	4	40	Configurable	16	8	4	12	✓	16	1	2	4	1	1	2	1	-	-	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M451R
M451RD3AE	Cortex-M4	72	2.5	5.5	-40	105	53	✓	4	72	Configurable	16	8	4	12	✓	16	1	2	4	1	1	2	1	-	-	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M451R
M451RE6AE	Cortex-M4	72	2.5	5.5	-40	105	53	✓	4	128	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	-	-	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M451R
M451RG6AE	Cortex-M4	72	2.5	5.5	-40	105	53	✓	4	256	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	-	-	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M451R
M451VE6AE	Cortex-M4	72	2.5	5.5	-40	105	85	✓	4	128	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	-	-	-	✓	LQFP100	14x14	✓	NT-M451V	NG-M451V
M451VG6AE	Cortex-M4	72	2.5	5.5	-40	105	85	✓	4	256	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	-	-	-	✓	LQFP100	14x14	✓	NT-M451V	NG-M451V
M4521LE6AE	Cortex-M4	72	2.5	5.5	-40	105	35	✓	4	128	Configurable	32	8	4	10	✓	10	-	-	3	1	1	2	1	-	1	-	✓	LQFP48	7x7	✓	NT-M4521S	NG-M453L
M4521SE6AE	Cortex-M4	72	2.5	5.5	-40	105	49	✓	4	128	Configurable	32	8	4	12	✓	16	-	-	4	1	1	2	1	-	1	-	✓	LQFP64	7x7	✓	NT-M4521S	NG-M453S
M452LC3AE	Cortex-M4	72	2.5	5.5	-40	105	35	✓	4	40	Configurable	16	8	4	10	✓	10	1	2	4	1	1	2	1	-	1	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M452LD3AE	Cortex-M4	72	2.5	5.5	-40	105	35	✓	4	72	Configurable	16	8	4	10	✓	10	1	2	4	1	1	2	1	-	1	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M452LE6AE	Cortex-M4	72	2.5	5.5	-40	105	34	✓	4	128	Configurable	32	12	4	10	✓	8	1	2	3	1	1	2	1	-	-	1	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M452LG6AE	Cortex-M4	72	2.5	5.5	-40	105	34	✓	4	256	Configurable	32	12	4	10	✓	8	1	2	3	1	1	2	1	-	-	1	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M452RD3AE	Cortex-M4	72	2.5	5.5	-40	105	49	✓	4	72	Configurable	16	8	4	12	✓	16	1	2	4	1	1	2	1	-	1	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M452RE6AE	Cortex-M4	72	2.5	5.5	-40	105	48	✓	4	128	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	-	-	1	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M452RG6AE	Cortex-M4	72	2.5	5.5	-40	105	48	✓	4	256	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	-	-	1	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M452VE6AE	Cortex-M4	72	2.5	5.5	-40	105	80	✓	4	128	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	-	-	1	✓	LQFP100	14x14	✓	NT-M451V	NG-M453V
M452VG6AE	Cortex-M4	72	2.5	5.5	-40	105	80	✓	4	256	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	-	-	1	✓	LQFP100	14x14	✓	NT-M451V	NG-M453V
M453LC3AE	Cortex-M4	72	2.5	5.5	-40	105	35	✓	4	40	Configurable	16	8	4	10	✓	10	1	2	4	1	1	2	1	1	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M453LD3AE	Cortex-M4	72	2.5	5.5	-40	105	35	✓	4	72	Configurable	16	8	4	10	✓	10	1	2	4	1	1	2	1	1	-	-	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M453LE6AE	Cortex-M4	72	2.5	5.5	-40	105	34	✓	4	128	Configurable	32	12	4	10	✓	8	1	2	3	1	1	2	2	1	-	1	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M453LG6AE	Cortex-M4	72	2.5	5.5	-40	105	34	✓	4	256	Configurable	32	12	4	10	✓	8	1	2	3	1	1	2	2	1	-	1	✓	LQFP48	7x7	✓	NT-M451V	NG-M453L
M453RD3AE	Cortex-M4	72	2.5	5.5	-40	105	49	✓	4	72	Configurable	16	8	4	12	✓	16	1	2	4	1	1	2	1	1	-	-	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M453RE6AE	Cortex-M4	72	2.5	5.5	-40	105	48	✓	4	128	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	1	-	1	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M453RG6AE	Cortex-M4	72	2.5	5.5	-40	105	48	✓	4	256	Configurable	32	12	4	12	✓	12	1	2	4	1	1	2	2	1	-	1	✓	LQFP64	10x10	✓	NT-M451V	NG-M453R
M453VD3AE	Cortex-M4	72	2.5	5.5	-40	105	72	✓	4	72	Configurable	16	8	4	12	✓	16	1	2	4	1	1	2	1	1	-	-	✓	LQFP100	14x14	✓	NT-M451V	NG-M453V
M453VE6AE	Cortex-M4	72	2.5	5.5	-40	105	80	✓	4	128	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	1	-	1	✓	LQFP100	14x14	✓	NT-M451V	NG-M453V
M453VG6AE	Cortex-M4	72	2.5	5.5	-40	105	80	✓	4	256	Configurable	32	12	4	12	✓	16	1	2	4	1	1	2	2	1	-	1	✓	LQFP100	14x14	✓	NT-M451V	NG-M453V

NUC505 系列

NuMicro® NUC505 系列基于 Arm® Cortex®-M4F 内核，支持 DSP 指令集且集成浮点运算单元 (FPU)。

动态功耗可低至 479 μ A/MHz，待机电流可低至 7 μ A。

NUC505 系列内置 Audio PLL 与支持麦克风 / 线路输入及耳机输出的立体声 24 位 Sigma-Delta 音讯编解码器。

应用领域：热敏打印机、GPS 定位器、无线麦克风、报警扬声器等

关键特性：128 位密钥用于代码保护、64+64 字节 UART FIFO 用于 TX/RX、2 组 USB、Audio PLL、24 位音讯编解码器

Part No.	System								Memory		Timer			Analog		Connectivity							Package		Status	Tool
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	V _{BAT}	APROM Flash (KB)	Data Flash (KB)	Timer (32-bit)	PWM (16-bit)	RTC	ADC (12-bit)	Audio Codec	UART	SPI	I2C	I2S	SDHC	USB FS Host	USB HS Device	Package Type	Package Size	Mass Production	EVB
NUC505DL13Y	Cortex-M4	100	3	3.6	-40	85	25	√	2048	128	4	4	√	5	-	3	2	2	1	1	1	1	LQFP48	7x7	√	NT-NUC505Y
NUC505DLA	Cortex-M4	100	3	3.6	-40	85	18	√	512	128	4	-	√	5	1	2	1	2	1	-	-	1	LQFP48	7x7	√	NT-NUC505Y
NUC505DS13Y	Cortex-M4	100	3	3.6	-40	85	35	√	2048	128	4	4	√	8	1	3	2	2	1	1	1	1	LQFP64	7x7	√	NT-NUC505Y
NUC505DSA	Cortex-M4	100	3	3.6	-40	85	34	√	512	128	4	4	√	5	1	3	2	2	1	1	1	1	LQFP64	7x7	√	NT-NUC505Y
NUC505YLA	Cortex-M4	100	3	3.6	-40	85	18	√	512	128	4	-	√	5	1	2	1	2	1	-	-	1	QFN48	7x7	√	NT-NUC505Y
NUC505YLA2Y	Cortex-M4	100	3	3.6	-40	85	25	√	512	128	4	4	√	5	-	3	2	3	1	1	1	1	QFN48	7x7	√	NT-NUC505Y
NUC505YO13Y	Cortex-M4	100	3	3.6	-40	85	52	√	2048	128	4	4	√	8	1	3	2	2	1	1	1	1	QFN88	10x10	√	NT-NUC505Y

KM1M4B 变频器控制系列

KM1M4B 系列 MCU 是采用 Arm® Cortex® M4F 的 32 位 MCU，在高速处理能力和低功耗之间有一个很好的平衡。

嵌入了高速 / 高精度的模拟功能和辅助功能，可以满足电机控制的要求。通过使用 RWW(Read While Write) 闪存，访问 EEPROM 变得更加有效。它们可以为需要高效率、超低功耗和小型化的电源管理系统作出贡献。

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I/O	Timer (16-bit)	Power control PWM	Connectivity				ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SSRAM ECC	CRC	Package
								Clock synchronous	UART	SPI	PC	Channel	Unit							
KM1M4BF05G	120	136	16	8	37	14	8	4	4	4	4	10	3	6	1	4	2	v	v	LQFP48 (7x7)
KM1M4BF54G	120	136	16	8	51	14	8	7	7	7	7	13	3	6	1	4	2	v	v	LQFP64 (10x10)
KM1M4BF54K	120	264	16	32	51	14	8	7	7	7	7	13	3	6	1	4	2	v	v	LQFP64 (10x10)
KM1M4BF53G	120	136	16	8	65	14	8	7	7	7	7	18	3	6	1	4	2	v	v	LQFP80 (12x12)
KM1M4BF53K	120	264	16	32	65	14	8	7	7	7	7	18	3	6	1	4	2	v	v	LQFP80 (12x12)
KM1M4BF52G	120	136	16	8	85	14	8	7	7	7	7	23	3	6	1	4	2	v	v	LQFP100 (14x14)
KM1M4BF52K	120	264	16	32	85	14	8	7	7	7	7	23	3	6	1	4	2	v	v	LQFP100 (14x14)

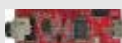
ISD® 94100 系列

新唐特别针对音频应用开发 32-bit 的 Cortex-M4F 一系列整合型 MCU，除了有内建 Flash 及 SRAM 记忆体，并富涵多元的 Audio 及控制介面 RTC, PDMA, UART, SPI, I2C, PWM, GPIO, SAR ADC, USB, Cortex-M4F 支援 DSP 指令集及浮点运算的微处理器，主频可以跑到 200MHz。并支援多元的周边介面如 UART, SPI, I2C, I2S, USB 支持 Full Speed 1.1 并相容于 2.0。目前内建优质的降噪及回声消除演算法，或高阶语音辨识，用以处理通话或语音辨识解决方案。

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development Tools	Other	Package
								MIC.	Speaker			
ISD94113A	Cortex®-M4 200 MHz	256 KB	128 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD	LQFP64 QFN48
ISD94113B	Cortex®-M4 200 MHz Basic Feature	256 KB	128 KB	57	4	12-bit SAR	✓	-	-	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94113S	Cortex®-M4 200 MHz	256 KB	128 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, AEC+NR	LQFP64 QFN48
ISD94123B	Cortex®-M4 200 MHz Basic Feature	512 KB	128 KB	57	4	12-bit SAR	✓	-	-	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94123S	Cortex®-M4 200 MHz	512 KB	128 KB	41	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, AEC+NR	QFN48
ISD94124A	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS VAD	LQFP64 QFN48
ISD94124B	Cortex®-M4 200 MHz, Basic feature	512 KB	192 KB	57	4	12-bit SAR	✓	-	-	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS	LQFP64 QFN48
ISD94124C	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, VR	LQFP64
ISD94124D	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, BF+NR	LQFP64
ISD94124P	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, VR, BF+NR	LQFP64
ISD94124S	Cortex®-M4 200 MHz	512 KB	192 KB	57	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DMK_94100_AM ISD-DMK_94100_DM	USB 2.0 FS, VAD, AEC+NR	LQFP64
ISD941A24A	Cortex®-M4 200MHz Stereo CODEC MCP	512 KB	192 KB	29	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DEMO941A24	USB 2.0 FS, VAD	LQFP64
ISD941A24S	Cortex®-M4 200MHz Stereo CODEC MCP	512 KB	192 KB	29	4	12-bit SAR	✓	4x DMIC	DPWM/I2S to ext. amp	ISD-DEMO941A24	USB 2.0 FS, VAD, AEC+NR	LQFP64

ISD®94100 系列开发工具



Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NU-NULINKISD	NU-NULINKISD	ISD-NU-LINK	ISD9100 Series ISD91200 Series ISD91500 Series ISD94100 Series	• ISD-NU-LINK	• USB Dongle • Support ICP (In-Circuit Programming)	
NM-I94100_AM	NM-I94100_AM	ISD-DMK_94100_AM	ISD94100 Series	• NL-ISD94124A • NP-I94124_AM • Speaker	• Evaluation and Demo Kit for ISD94100 Series • Connect with Analog Microphone Adaptor	
NM-I94100_DM	NM-I94100_DM	ISD-DMK_94100_DM	ISD94100 Series	• NL-ISD94124A • NP-I94124_DM • Speaker	• Evaluation and Demo Kit for ISD94100 Series • Connect with Digital Microphone Adaptor	
NL-ISD94124A	NL-ISD94124A	EVB-I94124	ISD94100 Series	• EVB-I94124	• Evaluation and Demo Kit for ISD94100 Series	
NP-I94124_AM	NP-I94124_AM	EVB-I94124ADI-NAU85L40B_V1.0	ISD94100 Series	• EVB-I94124ADI-NAU85L40B_V1.0	• Analog Microphone Adaptor for NL-ISD94124A	
NP-I94124_DM	NP-I94124_DM	EVB-I94124ADI-NAU85L40B_V1.2	ISD94100 Series	• EVB-I94124ADI-NAU85L40B_V1.2	• Analog / Digital Microphone Adaptor for NL-ISD94124A	
NV-ISD94100	NV-ISD94100	DEMO-I94100-NAU88C22	ISD94100 Series	• DEMO-I94100-NAU88C22	• ISD94100 Demo Board with audio CODEC (NAU88C22) on board • Connect to PC via ISD NU-LINK for programming and evaluation	
NT-I941A24UC	ISD941A24_UC_HEADSET	ISD941A24_UC_HEADSET	ISD941A24 Series	ISD941A24_UC_HEADSET	• UC_HEADSET Demo Board for ISD941A24 • Connect to PC via NU-LINK for Programming and Evaluation	
NV-I941A24SQI	ISD-DEMO941A24SQI	ISD-DEMO941A24SQI	ISD941A24SQI	ISD-DEMO941A24SQI	• Demo Board for ISD941A24SQI	
NV-ISD941A24	NV-ISD941A24	ISD-DEMO941A24	ISD941A24	• ISD-DEMO941A24	• Demo Board for ISD941A24	

NuMicro® M23 家族

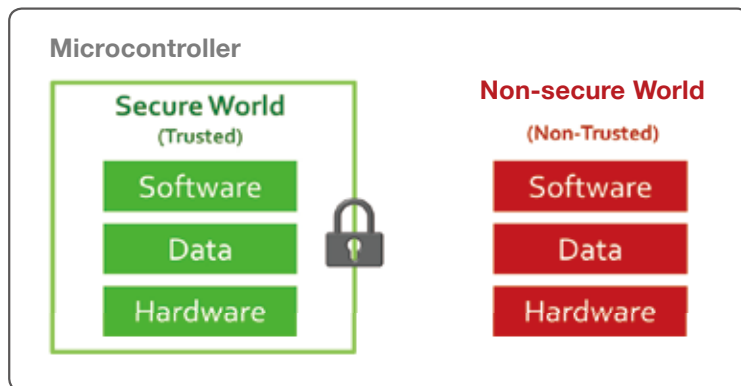
— 专注于物联网安全的 TrustZone® 技术微控制器系列



以 Cortex®-M23 为内核、内建 Arm®v8-M 架构之 TrustZone® 技术

新唐科技的 NuMicro® M23 家族，是以 Arm® Cortex®-M23 为核心，内建 Arm®v8-M 架构之 TrustZone® 技术的微控制器产品。其中，NuMicro® M2351 系列为该家族中的首发产品，以其安全性能与电源管理技术，实现物联网安全应用。

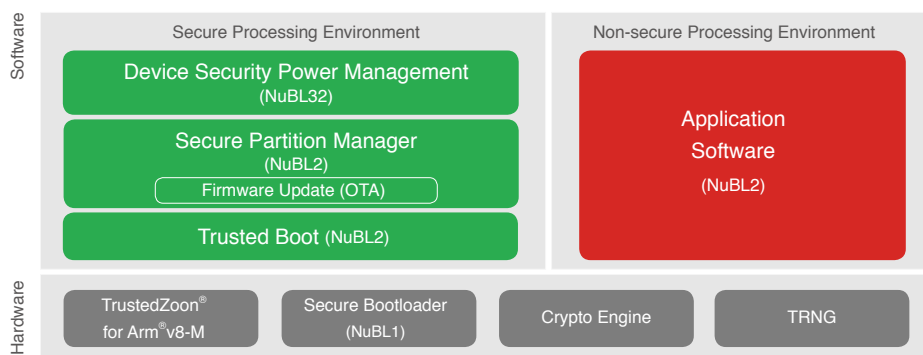
藉由 TrustZone® 技术的导入，微控制器中的内存、周边控制单元可被设置成安全区 (Secure world) 与非安全区 (Non-secure world)，以便捷的方式实现数据保护、固件更新与程序操作的安全性。此外，受惠于 Armv8-M 架构的 TrustZone 技术，其安全区与非安全区的切换设计以硬件来实现，不仅能加速转换，功率消耗也更有效率。



支持 Arm® PSA 的新唐安全微控制器平台 (NuSMP)

由 Arm® 所推出的平台安全架构 (PSA) 是一完整的系统，从威胁模型分析、安全性分析，到硬件与固件的架构规范以及开源的固件参考设计。PSA 是 Arm® 对物联网生态系统安全所提出的解决方案，其提供了基本设计原则与更有效益的方式，以构建更安全的物联网装置。

为了使开发者能更加便捷的将物联网安全技术实现于创新开发之中，新唐科技开发了可支持 Arm® PSA 的「新唐安全微控制器平台 (Nuvoton Secure Microcontroller Platform, NuSMP)」。NuSMP 是一系列混和硬件与软件的安全技术，用于满足通用及物联网安全之微控制器系列的安全要求。开发人员可轻松的透过 NuSMP 技术于 M2351 系列上实现具安全性的设计，包含 Trusted Boot (Root of Trust)、安全的 OTA 固件更新与软件下载、非安全区的电源管理与 PC 端的加解密软件工具。



NuMicro® M2351 系列

物联网时代的兴起使人们对物理世界与数字系统整合的认知随之提升，在日常生活的数字化带来效率提升和经济效益的同时，系统开发者也面临了新的挑战。由于安全性和低功耗为物联网应用的关键考虑，新唐科技开发了 NuMicro® M2351 系列，以满足物联网应用于低功耗运行的同时执行安全连网的开发设计需求。

NuMicro® M2351 系列微控制器系列以 Arm® Cortex®-M23 为内核、内建 Arm®v8-M 架构和 TrustZone® 技术，可将传统的固件安全性提升至更完整的软件安全防护。

M2351 系列微控制器运行频率可高达 64 MHz，内建 512 KB 双区块 (Dual Bank) 架构闪存 (Flash)，可支持 OTA (Over-The-Air) 固件升级，并内建 96 KB SRAM。此外，M2351 系列提供高性能外设接口，如 UART，SPI，I2C，GPIO，USB 和 ISO 7816-3。其安全性与多元的功耗管理模式使得物联网应用的创新更臻便捷。





应用领域：智能门锁、指纹智能卡、智能家居、智能楼宇、无线感测装置、智能表计、移动式数据采集仪、数字货币身分认证与冷钱包

工作主频：64 MHz

工作电压：1.8V ~ 3.6V、全 GPIO 支援 5V 输入

工作温度：-40° C ~ 105° C

关键特性：Arm®v8-M 架构之 TrustZone® 技术、8 个安全区/非安全区内存保护单元、硬件加密加速器、CRC 计算单元、至多 6 个破坏侦测引脚、支持 Arm® 平台安全架构 (PSA) 与微控制器可信基础系统架构 (TBSA-M)、物联网电源管理技术

Part No.	System									Memory				Timer		Analog		Connectivity										Security		Crypto	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	ETM	Vbat	LDROM Flash (KB)	APROM Flash (KB)	Secure Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	BPWM (16-bit)	EPWM (16-bit)	EADC	DAC (12-bit)	ACMP	LPUART	ISO-7816-3	QSPI	I2C	USCI	SPI/PS	CAN	SDHC	USB FS OTG	EBI	TRNG	Tamper	AES/DES/3DS/SHA/ECC	Package Type	Package Size	Mass Production	EVB	MP Programmer
M2351CIAAE	Cortex-M23	64	1.7	3.6	-40	105	41	-	-	4	512	-	96	16	4	12	12	12	2	2	6	3	1	3	2	3	1	1	1	√	√	-	√	WLCSP 49	3.2x3.2	√	NK-BEDM 2351	-
M2351KIAAE	Cortex-M23	64	1.7	3.6	-40	105	107	√	√	4	512	-	96	16	4	12	12	16	2	2	6	3	1	3	2	4	1	1	1	√	√	6	√	LQFP 128	14x14	√	NK-BEDM 2351	NLG-128KX
M2351SFSIAAE	Cortex-M23	64	1.7	3.6	-40	85	45	-	√	4	512	4096	96	16	4	12	12	16	2	2	6	3	-	3	2	4	1	1	1	√	√	1	√	LQFP 64	7x7	√	NK-M2351 SF	NLG-64S
M2351SIAAE	Cortex-M23	64	1.7	3.6	-40	105	51	-	√	4	512	-	96	16	4	12	12	16	2	2	6	3	1	3	2	4	1	1	1	√	√	1	√	LQFP 64	7x7	√	NK-BEDM 2351	NLG-64S
M2351ZIAAE	Cortex-M23	64	1.7	3.6	-40	105	25	-	-	4	512	-	96	16	4	12	11	10	2	2	6	3	1	3	2	3	1	1	1	-	√	-	√	QFN 33	5x5	√	NK-BEDM 2351	NLG-32Z

M2354 系列

新唐科技的 NuMicro® M2354 系列是基于 Arm® Cortex®-M23 内核带 TrustZone 功能的微控制器产品。M2354 系列增加了对于密码硬件运行时之侧信道攻击 (Side-Channel Attack) 与电压与时钟突波故障注入 (Fault Injection) 攻击防护的保障。该系列提供了微控制器平台安全硬件支持 (Product Lifecycle Management)，包含了调适接口的管理 (Debug Port Management)，产品生命周期管理功能 (Product Lifecycle Management)，固件版本计数器，安全密钥存储区的物理层级安全防护等，将能满足未来物联网装置对于高安全性与低功耗的设计需求，能抵御对装置内存数据、信息传递与内部软件程序的恶意攻击，轻松实现“代码安全”、“数据安全”、“通信安全”等物联网装置安全需求的三大主要目标。

M2354 系列主频可运行最高到 96 MHz，内建 1 Mega Bytes 双区块 (Dual Bank) 架构闪存 (Flash)，可支持安全空中固件升级 (Secure FOTA Update)。



应用领域：智能门锁、指纹智能卡、智能家居、智能楼宇、无线感测装置、智能表计、移动式数据采集仪、数字货币身分认证与冷钱包、移动支付设备

关键特性：物理安全防护密钥存储区、最高可支持 8x40 段式显示屏、Armv8-M 架构之 TrustZone 技术、八个安全区 / 非安全区内内存保护单元、硬件加密加速器、CRC 计算单元、至多六个破坏侦测引脚、支持 Arm PSA 安全平台架构，可达到安全等级第二级甚至第三级 (PSA Certified Level 2/ Level 3)

Part No.	System										Memory			Timer		Analog	Connectivity										Security		Crypto	Display	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	ETM	V _{BAT}	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	BPWM (16-bit)	EPWM (16-bit)	EADC	DAC (12-bit)	LPUART	ISO-7816-3	QSPI	I2C	USCI	SPI/I2S	CAN	SDHC	USB FS OTG	EBI	TRNG	Tamper	Key Store	AES/ECG/SHA/ SM2/3/4	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer
M2354KJFAE	Cortex-M23	96	1.7	3.6	-40	105	106	✓	✓	16	1024	256	16	4	12	12	16	2	6	3	1	3	2	4	1	1	1	✓	✓	6	✓	✓	8x40	LQFP128	14x14	✓	NK-BEDM2354	NLG-128KX
M2354LJFAE	Cortex-M23	96	1.7	3.6	-40	105	40	-	-	16	1024	256	16	4	12	12	11	2	6	3	1	3	2	3	1	1	1	✓	✓	1	✓	✓	-	LQFP48	7x7	✓	NK-BEDM2354	NLG-48L
M2354SJFAE	Cortex-M23	96	1.7	3.6	-40	105	50	-	✓	16	1024	256	16	4	12	12	16	2	6	3	1	3	2	4	1	1	1	✓	✓	1	✓	✓	8X13	LQFP64	7x7	✓	NK-BFDM2354	NLG-64S

M2L31 系列



NuMicro M2L31 系列基于 Arm Cortex-M23 核心，采用 Armv8-M 架构，具备单周期硬件乘法器 / 除法器。其运行频率可达 72 MHz，内置 64 至 512 K 字节的 ReRAM，以及 40 至 168 K 字节的 SRAM。工作电压范围为 1.71V 至 3.6V，工作温度范围广泛，从 -40°C 至 105°C。此系列提供多种封装选择，并具有卓越的高抗干扰特性，可抵御 4 kV 的 ESD（静电放电）HBM 和 4.4 kV 的 EFT（电快速变动）。512 K 字节 ReRAM 的双银行设计支持通过空中固件更新（FOTA）过程进行固件升级。

目标应用领域：智能家居 / 智能家居设备、工业控制 / 工业自动化、智能城市、物联网设备、安全警报系统、个人电脑外围设备、电池管理系统。

主要特点：提供最多三个可编程增益放大器（PGA），三个模拟比较器（ACMP），24 通道 12 位 3.6MSPS 模数转换器（ADC），两个 12 位 1MSPS 数模转换器（DAC），24 通道高速脉宽调制（PWM），USB 2.0 Type-C Power Delivery 3.1 控制器，硬件加速的加密模块，包括 AES，伪随机数生成器（PRNG）和真随机数生成器（TRNG）。超低功耗，包括每 MHz 60 微安（正常运行），每 MHz 33 微安（空闲状态），2.4 微安（关机，RTC 开启，保留 RAM），以及 0.5 微安（关机，RTC 关闭，保留 RAM）。

Part No.	System							Memory				Timer					Analog				Connectivity										Security		Crypto	Package	Tool									
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	VBAT	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	EPWM (16-bit)	PWM (16-bit)	RTC	QEI	ECAP	EADC	DAC (12-bit)	ADMP	PGA	Touch Key	Internal Voltage Reference				LPUART	UART	LIN	I2C	USCI	SPI/RS	USB FS OTG	EBI	CAN FD	Power delivery	Pseudorandom Number Generator (PRNG) True Random Number Generator (TRNG)		XOM	Tamper	AES	Package Type	EVB
M2L31KIDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	109	8	512	168	16	4	12	12	✓	2	2	24	2	3	3	18	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 128	NK-M2L31KI	NLG-128K	
M2L31KGDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	109	8	256	168	16	4	12	12	✓	2	2	24	2	3	3	18	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 128	NK-M2L31KI	NLG-128K	
M2L31SIDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	53	8	512	168	16	4	12	12	✓	2	2	20	2	3	3	17	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 64	NK-M2L31KI	NLG-64S	
M2L31SGDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	53	8	256	168	16	4	12	12	✓	2	2	20	2	3	3	17	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 64	NK-M2L31KI	NLG-64S	
M2L31CGDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	512	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 48	NK-M2L31KI	-	
M2L31CIDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	256	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	LQFP 48	NK-M2L31KI	-	
M2L31LIDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	512	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	QFN 48	NK-M2L31KI	NLG-48Y	
M2L31LGDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	256	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	1	8	2	4	2	4	✓	✓	2	✓	✓	✓	✓	✓	3	✓	QFN 48	NK-M2L31KI	NLG-48Y	
M2L31YIDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	512	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	V	1	8	2	4	2	✓	✓	2	✓	✓	✓	✓	✓	3	✓	QFN 48	NK-M2L31KI	NLG-48Y	
M2L31YGDAE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	256	168	16	4	12	12	✓	2	2	16	2	3	3	12	✓	V	1	8	2	4	2	✓	✓	2	✓	✓	✓	✓	✓	3	✓	QFN 48	NK-M2L31KI	NLG-48Y	
M2L31SG4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	53	8	256	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	LQFP64	NK-M2L31SG	NLG-64S		
M2L31SE4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	53	8	128	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	LQFP 64	NK-M2L32SG	NLG-64S		
M2L31LG4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	256	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	LQFP 48	NK-M2L33SG	NLG-48Y		
M2L31LE4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	128	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	LQFP 48	NK-M2L34SG	NLG-48Y		
M2L31LD4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	64	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	LQFP 48	NK-M2L35SG	NLG-48Y		
M2L31YG4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	256	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	QFN 48	NK-M2L36SG	NLG-48Y		
M2L31YE4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	128	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	QFN 48	NK-M2L37SG	NLG-48Y		
M2L31YD4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	41	8	64	40	10	4	12	-	✓	2	2	16	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	QFN 48	NK-M2L38SG	NLG-48Y		
M2L31ZE4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	26	8	128	40	10	4	12	-	✓	2	2	10	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	QFN 32	NK-M2L39SG	NLG-32Z		
M2L31ZD4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	26	8	64	40	10	4	12	-	✓	2	2	10	1	3	2	-	✓	V	1	6	2	2	1	✓	-	1	✓	-	-	✓	3	✓	QFN 33	NK-M2L40SG	NLG-33Z		
M2L31XD4AE	Cortex-M23	72	1.71	3.6	-40	105	✓	18	8	64	40	10	4	12	-	✓	2	2	6	-	2	1	-	✓	V	1	5	2	2	-	✓	-	1	✓	-	-	✓	3	✓	WLCSP 25	NK-M2L41SG			

M251/M252 系列

NuMicro® M251/M252 系列为超低功耗微控制器，基于 Arm® Cortex®-M23 内核和 Armv8-M 架构，主频支持 48 MHz，支持 32 ~ 256 Kbytes 内嵌 Flash 内存以及 8 ~ 32 Kbytes SRAM 内存，支持宽工作电压 1.8V ~ 5.5V，4 K 字节独立 Flash 作为在线系统编程（In-System Programming）用途。NuMicro® M251/M252 系列支持宽工作电压 1.75V ~ 5.5V 与 -40°C 到 105°C 的操作温度，集成具有模拟多样通讯协定（诸如 UART、SPI、I2C ... 等）的可编程串行接口（PSIO）与多样通讯协议如电压调整接口（VAI）、USB 2.0 全速设备（无须外挂晶振）。

应用领域：适合于智能家庭与家电，工业控制 / 工业自动化，智能城市、物联网节点装置、安全警报监控系统、电池供电的设备，移动支付智能读卡机、穿戴式装置、可携式医疗装置、GPS 数据采集器、无线通讯模块（Zigbee、LoRa ... 等）、电子货架标签等。

• M251 系列

关键特性：最高支持 8 路可模拟多样通讯协定的可编程串行接口（PSIO）、超低功耗技术：138 μ A/MHz

Part No.	System						Memory				Timer			Analog		Connectivity										Security		Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	PWM (16-bit)	BPWM (16-bit)	RTC	EADC	DAC (12-bit)	ACMP	UART	LIN	ISO-7816-3	QSPI	I2C	USCI	SPI/PS	PSIO	USB F/S Device Crystal-less	XOM	Tamper	Package Type	Package Size	Mass Production	EVB	MP Programmer
M251EC2AE	Cortex-M23	48	1.75	5.5	-40	105	23	4	32	8	5	4	11	-	-	9	-	-	2	1	1	1	2	1	-	-	-	✓	-	TSSOP28	4.4x9.7	✓	NK-M252SD	NLG-28E
M251FC2AE	Cortex-M23	48	1.75	5.5	-40	105	15	4	32	8	5	4	9	-	-	7	-	-	2	1	1	1	2	1	-	-	-	✓	-	TSSOP20	4.4x6.5	✓	NK-M252SD	NLG-20F
M251KE3AE	Cortex-M23	48	1.75	5.5	-40	105	85	4	128	16	8	4	12	12	✓	16	-	2	3	1	1	1	2	3	1	8	-	✓	✓	LQFP128	14x14	✓	NK-M252KG	NLG-128KX
M251KG6AE	Cortex-M23	48	1.75	5.5	-40	105	85	4	256	32	8	4	12	12	✓	16	1	2	3	1	1	1	2	3	1	8	-	✓	✓	LQFP128	14x14	✓	NK-M252KG	NLG-128KX
M251LC2AE	Cortex-M23	48	1.75	5.5	-40	105	41	4	32	12	5	4	12	12	✓	12	-	2	3	1	1	1	2	2	1	4	-	✓	-	LQFP48	7x7	✓	NK-M252SD	NLG-48L
M251LD2AE	Cortex-M23	48	1.75	5.5	-40	105	41	4	64	12	5	4	12	12	✓	12	-	2	3	1	1	1	2	2	1	4	-	✓	-	LQFP48	7x7	✓	NK-M252SD	NLG-48L
M251LE3AE	Cortex-M23	48	1.75	5.5	-40	105	41	4	128	16	8	4	12	12	✓	12	-	2	3	1	1	1	2	3	1	8	-	✓	-	LQFP48	7x7	✓	NK-M252KG	NLG-48L
M251LG6AE	Cortex-M23	48	1.75	5.5	-40	105	41	4	256	32	8	4	12	12	✓	12	1	2	3	1	1	1	2	3	1	8	-	✓	-	LQFP48	7x7	✓	NK-M252KG	NLG-48L
M251SC2AE	Cortex-M23	48	1.75	5.5	-40	105	54	4	32	12	5	4	12	12	✓	16	-	2	3	1	1	1	2	2	1	4	-	✓	✓	LQFP64	7x7	✓	NK-M252SD	NLG-64S
M251SD2AE	Cortex-M23	48	1.75	5.5	-40	105	54	4	64	12	5	4	12	12	✓	16	-	2	3	1	1	1	2	2	1	4	-	✓	✓	LQFP64	7x7	✓	NK-M252SD	NLG-64S
M251SE3AE	Cortex-M23	48	1.75	5.5	-40	105	53	4	128	16	8	4	12	12	✓	16	-	2	3	1	1	1	2	3	1	8	-	✓	✓	LQFP64	7x7	✓	NK-M252KG	NLG-64S
M251SG6AE	Cortex-M23	48	1.75	5.5	-40	105	53	4	256	32	8	4	12	12	✓	16	1	2	3	1	1	1	2	3	1	8	-	✓	✓	LQFP64	7x7	✓	NK-M252KG	NLG-64S
M251ZC2AE	Cortex-M23	48	1.75	5.5	-40	105	26	4	32	8	5	4	12	-	✓	10	-	-	2	1	1	1	2	1	-	-	-	✓	-	QFN33	5x5	✓	NK-M252SD	NLG-32Z
M251ZD2AE	Cortex-M23	48	1.75	5.5	-40	105	26	4	64	12	5	4	12	12	✓	10	-	2	3	1	1	1	2	2	1	4	-	✓	-	QFN33	5x5	✓	NK-M252SD	NLG-32Z

• M252 系列

关键特性：支持 USB 2.0 全速设备、并且无须外挂晶振、最高支持 8 路可模拟多样通讯协定的可编程串行接口 (PSIO)、超低功耗技术：138 $\mu\text{A}/\text{MHz}$ (运行模式)、60 $\mu\text{A}/\text{MHz}$ (Idle 模式)、2.5 μA (RTC 模式，RAM 数据保持)、1.5 μA (待机模式，RAM 数据保持)

Part No.	System							Memory				Timer				Analog		Connectivity								Security		Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDRAM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	BPWM (16-bit)	PWM (16-bit)	RTC	EADC	ACMP	UART	LIN	ISO-7816-3	QSPI	PC	USCI	SP/I²S	PSIO	USB FS Device Crystal-less	XOM	Tamper	Package Type	Package Size	Mass Production	EVB	MP Programmer	
M252EC2AE	Cortex-M23	48	1.75	5.5	-40	105	19	4	32	8	5	4	11	-	-	9	-	-	2	1	1	1	2	1	-	-	✓	✓	-	TSSOP28	4.4x9.7	✓	NK-M252SD	NLG-28E
M252FC2AE	Cortex-M23	48	1.75	5.5	-40	105	11	4	32	8	5	4	7	-	-	3	-	-	2	1	1	1	2	1	-	-	✓	✓	-	TSSOP20	4.4x6.5	✓	NK-M252SD	NLG-20F
M252KE3AE	Cortex-M23	48	1.75	5.5	-40	105	81	4	128	16	8	4	12	12	✓	16	-	2	3	1	1	1	2	3	1	8	✓	✓	✓	LQFP128	14x14	✓	NK-M252KG	NLG-128KX
M252KG6AE	Cortex-M23	48	1.75	5.5	-40	105	81	4	256	32	8	4	12	12	✓	16	1	2	3	1	1	1	2	3	1	8	✓	✓	✓	LQFP128	14x14	✓	NK-M252KG	NLG-128KX
M252LC2AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	32	12	5	4	12	8	✓	12	-	2	3	1	1	1	2	2	1	4	✓	✓	-	LQFP48	7x7	✓	NK-M252SD	NLG-48L
M252LD2AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	64	12	5	4	12	12	✓	12	-	2	3	1	1	1	2	2	1	4	✓	✓	-	LQFP48	7x7	✓	NK-M252SD	NLG-48L
M252LE3AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	128	16	8	4	12	12	✓	12	-	2	3	1	1	1	2	3	1	8	✓	✓	-	LQFP48	7x7	✓	NK-M252KG	NLG-48L
M252LG6AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	256	32	8	4	12	12	✓	12	1	2	3	1	1	1	2	3	1	8	✓	✓	-	LQFP48	7x7	✓	NK-M252KG	NLG-48L
M252SC2AE	Cortex-M23	48	1.75	5.5	-40	105	50	4	32	12	5	4	12	12	✓	16	-	2	3	1	1	1	2	2	1	4	✓	✓	✓	LQFP64	7x7	✓	NK-M252SD	NLG-64S
M252SD2AE	Cortex-M23	48	1.75	5.5	-40	105	50	4	64	12	5	4	12	12	✓	16	-	2	3	1	1	1	2	2	1	4	✓	✓	✓	LQFP64	7x7	✓	NK-M252SD	NLG-64S
M252SE3AE	Cortex-M23	48	1.75	5.5	-40	105	49	4	128	16	8	4	12	12	✓	16	-	2	3	1	1	1	2	3	1	8	✓	✓	✓	LQFP64	7x7	✓	NK-M252KG	NLG-64S
M252SG6AE	Cortex-M23	48	1.75	5.5	-40	105	49	4	256	32	8	4	12	12	✓	16	1	2	3	1	1	1	2	3	1	8	✓	✓	✓	LQFP64	7x7	✓	NK-M252KG	NLG-64S
M252ZC2AE	Cortex-M23	48	1.75	5.5	-40	105	23	4	32	8	5	4	12	-	✓	10	-	-	2	1	1	1	2	1	-	-	✓	✓	-	QFN33	5x5	✓	NK-M252SD	NLG-32Z
M252ZD2AE	Cortex-M23	48	1.75	5.5	-40	105	22	4	64	12	5	4	12	12	✓	10	-	2	3	1	1	1	2	2	1	4	✓	✓	-	QFN33	5x5	✓	NK-M252SD	NLG-32Z

M253 系列

NuMicro® M253 系列基于 Arm® Cortex®-M23 内核和 Armv8-M 架构，主频支持 48 MHz，支持 128 Kbytes 内嵌 Flash 内存以及 16 Kbytes SRAM 内存，M253 系列集成一路 CAN FD 接口与 USB 2.0 全速设备，无须外挂晶振，支持宽工作电压 1.75V ~ 5.5V 与 -40°C 到 105°C 的操作温度，并提供高亢干扰能力如 8 kV HBM ESD 与 4.4 kV EFT。

应用领域：适合于智能家居与家电，工业控制 / 工业自动化，电池包管理。

• M253 系列

关键特性：最高一路 CAN FD、一路 USB 2.0 全速介面、五路串口、超低功耗技术：130 $\mu\text{A}/\text{MHz}$ (运行模式)、1.7 μA (RTC 模式，RAM 数据保持)、1.3 μA (待机模式，RAM 数据保持)

Part No.	System							Memory				Timer		Analog		Connectivity								Security	Package		Status	Tool	
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDRAM Flash	APROM Flash	SRAM	PDMA	BPWM (16-bit) Timer (32-bit)	RTC	EADC	ACMP	UART	I2C	USCI	SPI/ I2S	CAN FD	USB FS Device	USB FS Device Crystal-less	XOM	Package Type	Package Size	Mass Production	EVB	MP Programmer	
M253LD3AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	64	16	5	4	6	✓	12	2	5	2	1	1	1	1	✓	✓	LQFP48	7x7	✓	NK-M253LE	NLG-48L
M253ZE3AE	Cortex-M23	48	1.75	5.5	-40	105	22	4	128	16	5	4	6	✓	10	2	5	2	1	1	1	1	✓	✓	QFN33	5x5	✓	NK-M253LE	NLG-32Z
M253LE3AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	128	16	5	4	6	✓	12	2	5	2	1	1	1	1	✓	✓	LQFP48	7x7	✓	NK-M253LE	NLG-48L
M253LD3BE	Cortex-M23	48	1.75	5.5	-40	105	37	4	64	16	5	4	6	✓	12	2	5	2	1	1	1	1	✓	✓	LQFP48	7x7	✓	NK-M253LE	NLG-48L
M253ZE3BE	Cortex-M23	48	1.75	5.5	-40	105	22	4	128	16	5	4	6	✓	10	2	5	2	1	1	1	1	✓	✓	QFN33	5x5	✓	NK-M253LE	NLG-32Z
M253LE3BE	Cortex-M23	48	1.75	5.5	-40	105	37	4	128	16	5	4	6	✓	12	2	5	2	1	1	1	1	✓	✓	LQFP48	7x7	✓	NK-M253LE	NLG-48L

M254/M256/M258 系列

NuMicro® M254/M256/M258 系列为超低功耗微控制器，基于 Arm® Cortex®-M23 内核和 Armv8-M 架构，主频支持 48 MHz，支持 64 ~ 256 Kbytes 内嵌 Flash 内存以及 8 ~ 32 Kbytes SRAM 内存，4 K 字节独立 Flash 作为在线系统编程（In-System Programming）用途，内建 COM/SEG LCD 驱动，也支持电容式触摸功能可应用于家电当中的人机接口控制，而 NuMicro M258 系列更是支持 USB 2.0 全速装置。

应用领域：适合于手持式装置，温控器、智慧家庭、智能家电、工业控制 / 工业自动化，温湿度记录仪等

• M254 系列

关键特性：支持 8x40, 6x42, 4x44 COM/SEG LCD 驱动，并支持三种分压方式：charge-pump, 电阻以及内建 OP Buffer，能够支持 1.8V 至 5.5 V LCD 液晶屏，并可调整 1/2, 1/3, 1/4 偏压 以及 1/4, 1/6, 1/8 等周期

Part No.	System							Memory			Timer		Analog			Connectivity						Security	Crypto	Display	Package		Status	Tool					
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash	APROM Flash	SRAM	PDMA	Timer/ PWM	BPWM (16-bit)	RTC	EADC	Touch Key/ ACMP	UART	LIN	ISO-7816-3	I2C	USCI	SPI/ I2S	USB FS Device	USB FS Device Crystal-less	XOM	AES	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer	
M254MD2AE	Cortex-M23	48	1.75	5.5	-40	105	37	4	64	8	5	4	6	√	12	-	2	-	3	1	1	1	1	-	√	-	4 x 20 6 x 18 8 x 16	LQFP 44	10x10	√	NK-M256SD	-	
M254SD2AE	Cortex-M23	48	1.75	5.5	-40	105	54	4	64	8	5	4	6	√	16	-	2	-	3	1	1	1	1	-	√	-	4 x 32 6 x 30 8 x 28	LQFP 64	7x7	√	NK-M256SD	NLG-64S	
M254SE3AE	Cortex-M23	48	1.75	5.5	-40	105	53	4	128	16	5	4	6	√	16	-	2	-	3	1	1	1	1	-	√	-	4 x 32 6 x 30 8 x 28	LQFP 64	7x7	√	NK-M258KE	NLG-64S	
M254KE3AE	Cortex-M23	48	1.75	5.5	-40	105	86	4	128	16	5	4	6	√	16	-	2	-	3	1	1	1	1	-	√	-	4 x 40 6 x 42 8 x 44	LQFP 128	14x14	√	NK-M258KE	NLG-128KX	
M254SG6AE	Cortex-M23	48	1.75	5.5	-40	105	53	4	256	32	8	4	12	√	16	2	2	-	4	1	1	2	2	2	-	√	√	4 x 32 6 x 30 8 x 28	LQFP 64	7x7	√	NK-M258KG	NLG-64S
M254KG6AE	Cortex-M23	48	1.75	5.5	-40	105	86	4	256	32	8	4	12	√	16	2	2	-	4	1	1	2	2	2	-	√	√	4 x 40 6 x 42 8 x 44	LQFP 128	14x14	√	NK-M258KG	NKG-128KX

• M256 系列

关键特性：支持 8x40, 6x42, 4x44 COM/SEG LCD 驱动以及电容式触控功能，最高可支持至 16 个独立触控按键，并提供 single-scan，periodic key-scans, slider, wheel 等多种范例代码

Part No.	System							Memory			Timer		Analog			Connectivity							Security	Crypto	Display	Package		Status	Tool	
	Core																													

• M258 系列

关键特性：支持 8x40, 6x42, 4x44 COM/SEG LCD 以及高达 16 组独立电容式触控按键，并提供 BC1.2 USB

Part No.	System							Memory				Timer		Analog			Connectivity							Security	Crypto	Display	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash	APROM Flash	SRAM	PDMA	BPWM (16-bit)	Timer/ PWM	RTC	EADC	DAC (12-bit)	Touch Key	ACMP	UART	LIN	ISO-7816-3	PC	USCI	SPI/I2S	USB FS Device	USB FS Device	XOM	AES	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer
M258SE3AE	Cortex-M23	48	1.75	5.5	-40	105	49	4	128	16	5	4	6	✓	16	-	2	14	3	1	1	1	1	1	1	✓	✓	-	8x28 6x26 4x24	LQFP 64	7x7	✓	NK-M258KE	NLG-64S
M258KE3AE	Cortex-M23	48	1.75	5.5	-40	105	82	4	128	16	5	4	6	✓	16	-	2	15	3	1	1	1	1	1	1	✓	✓	-	8x40 6x42 4x44	LQFP 128	14x14	✓	NK-M258KE	NLG-128KX
M258SG6AE	Cortex-M23	48	1.75	5.5	-40	105	49	4	256	32	8	4	12	✓	16	2	2	20	4	1	1	2	2	2	1	✓	✓	✓	8x28 6x26 4x24	LQFP 64	7x7	✓	NK-M258KG	NKG-64S
M258KG6AE	Cortex-M23	48	1.75	5.5	-40	105	82	4	256	32	8	4	12	✓	16	2	2	24	4	1	1	2	2	2	1	✓	✓	✓	8x40 6x42 4x44	LQFP 128	14x14	✓	NK-M258KG	NLG-128KX

M261/M262/M263 系列

新唐科技 NuMicro® M261/M262/M263 系列是新一代 32 位低功耗微控制器产品，基于 Arm® Cortex®-M23 内核，支持 Arm®v8-M 指令集架构。其工作频率达 64 MHz，内嵌可支持无线更新固件技术（OTA）的双区块（dual bank）512 KB Flash、96 KB SRAM，可运作于 1.8V ~ 3.6V 工作电压和 -40°C ~ 105 °C 温度范围。

应用领域：智能门锁、指纹智能卡、智能家居、智能楼宇、无线感测装置、智能表计、移动式数据采集仪、手持式医疗设备

• M261/M262/M263 系列

关键特性：支持无线更新固件的 512 KB 双区块（Dual Bank）架构闪存（Flash）、USB 2.0 全速 OTG、CAN 2.0B 接口、SDHC 2.0 接口、支持安全开机功能、硬件加密引擎、16 通道 12 位 3.76 Msps 采样率 ADC、12 位 1 Msps 采样率 DAC、模拟比较器（ACMP）

低功耗技术：正常运行模式下约为 97 μ A/MHz（LDO 模式）和 45 μ A/MHz（DC-DC 模式），待机掉电模式下约为 2.8 μ A，深度掉电模式下的耗电流则小于 2 μ A。

Part No.	System										Memory				Timer				Analog		Connectivity										Security		Crypto	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash	SRAM	PDMA	Timer/ PWM	EPWM (16-bit)	BPWM (16-bit)	QEI	ECAP	RTC	EADC	DAC (12-bit)	ACMP	LIN	ISO-7816-3	LPUART	QSPI	I2C	USCI	SPI/ I2S	I2S	CAN	SDHC	USB FS OTG	EBI	TRNG	XOM	Tamper	Package Type	Package Size	Mass Production	EVB	MP Programmer		
M261KIAAE	Cortex-M23	64	1.8	3.6	-40	105	107	4	512	96	16	4	12	12	2	2	✓	16	2	2	2	6	3	1	3	2	4	1	-	1	-	✓	✓	✓	6	✓	LQFP128	14x14	✓	NK-M263KI	NLG-128KX
M261SIAAE	Cortex-M23	64	1.8	3.6	-40	105	51	4	512	96	16	4	12	12	2	1	✓	16	2	2	2	6	3	1	3	2	4	1	-	1	-	✓	✓	✓	1	✓	LQFP64	7x7	✓	NK-M263KI	NLG-64S
M261ZIAAE	Cortex-M23	64	1.8	3.6	-40	105	25	4	512	96	16	4	12	12	1	-	✓	9	2	2	2	6	3	1	3	2	3	1	-	1	-	-	✓	✓	-	✓	QFN33	5x5	✓	NK-M263KI	NLG-32Z
M262KIAAE	Cortex-M23	64	1.8	3.6	-40	105	107	4	512	96	16	4	12	12	2	2	✓	16	2	2	2	6	3	1	3	2	4	1	-	1	1	✓	✓	✓	6	✓	LQFP128	14x14	✓	NK-M263KI	NLG-128KX
M262SIAAE	Cortex-M23	64	1.8	3.6	-40	105	51	4	512	96	16	4	12	12	2	1	✓	16	2	2	2	6	3	1	3	2	4	1	-	1	1	✓	✓	✓	1	✓	LQFP64	7x7	✓	NK-M263KI	NLG-64S
M262ZIAAE	Cortex-M23	64	1.8	3.6	-40	105	25	4	512	96	16	4	12	12	1	-	✓	9	2	2	2	6	3	1	3	2	3	1	-	1	1	-	✓	✓	-	✓	QFN33	5x5	✓	NK-M263KI	NLG-32Z
M263KIAAE	Cortex-M23	64	1.8	3.6	-40	105	107	4	512	96	16	4	12	12	2	2	✓	16	2	2	2	6	3	1	3	2	4	1	1	1	1	✓	✓	✓	6	✓	LQFP128	14x14	✓	NK-M263KI	NLG-128KX
M263SIAAE	Cortex-M23	64	1.8	3.6	-40	105	51	4	512	96	16	4	12	12	2	1	✓	16	2	2	2	6	3	1	3	2	4	1	1	1	1	✓	✓	✓	1	✓	LQFP64	7x7	✓	NK-M263KI	NLG-64S
M263ZIAAE	Cortex-M23	64	1.8	3.6	-40	105	25	4	512	96	16	4	12	12	1	-	✓	9	2	2	2	6	3	1	3	2	3	1	1	1	1	-	✓	✓	-	✓	QFN33	5x5	✓	NK-M263KI	NLG-32Z

M2003 系列



NuMicro® M2003 系列基于 Arm® Cortex®-M23 内核，内建 32 位硬件乘法器。主频支持 24 MHz，支持 32 Kbytes 内嵌 Flash 内存以及 4 Kbytes SRAM 内存，支持工作电压 2.4V ~ 5.5VV 与 -40°C 到 105°C 的操作温度。NuMicro® M2003 系列配备丰富的外设，如 32 位 Timer、UART、I2C、通用串行控制接口 (USCI) 可设为 UART, I2C 或 SPI，以及 ADC 及 PWM。

应用领域：广泛地适用于各种应用，如智能建筑、智能家庭与家电、工业控制、电池管理系统等等。

关键特性：提供业界最通用小封装 TSSOP20 及 QFN20。脚位与 N76E003AT20、N76E003AQ20、N76E003BQ20、MS51FB9AE、MS51XB9AE、MS51XB9BE 及 MG51 系列兼容。

Part No.	System							Memory			Timer				Analog	Connectivity			Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash(KB)	APROM Flash(KB)	Data Flash(KB)	SRAM(KB)	WDT	WWDT	Timer(32-bit)	PWM(16-bit)	ECAP	ADC (12-bit)	UART	I2C	USCI	SPROM(B)	Package Type	Package Size	Mass Production	EVB	MP Programmer
M2003FC1AE	Cortex-M23	24	2.4	5.5	-40	105	18	4	32	Configurable	4	√	√	4	6	1	8	2	1	1	1024	TSSOP20	4.4x6.5	2024/Q2	NK-M2003FC	-
M2003XC1AE	Cortex-M23	24	2.4	5.5	-40	105	18	4	32	Configurable	4	√	√	4	6	1	8	2	1	1	1024	QFN20	3x3	2024/Q2	NK-M2003FC	-

Arm® Cortex®-M7 微控制器



KM1M7 系列 MCU 搭载 Arm® Cortex® M7 内核，是一款同时具有高处理能力及低功耗性能的 MCU

该 MCU 内置适用于马达 / 电源控制的高性能 PWM，高速高精度 AD 以及反馈控制辅助功能，可用于构建高效率 / 低功耗 / 小型化的电源管理系统。

KM1M7A/KM1M7C 数字电源 系列

KM1M7 系列 MCU 搭载 Arm® Cortex® M7 内核，是一款同时具有高处理能力及低功耗性能的 MCU。

该 MCU 内置适用于，电源控制的高速，高精度模拟模块以及辅助功能，并采用具有 RWW (Read while Write) 功能的存储器，使 EEPROM 的读写更有效。可用于构建高效率 / 低功耗 / 小型化的电源管理系统。

• KM1M7AFxx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (16-bit)	Power control PWM	Connectivity						ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
									Clock synchronous	UART	SPI	I2C	SM-Bus	CAN	Channel	Unit							
KM1M7AF52N	160	512	64	64	64	82	20	10	7	6	3	2	-	2	23	3	10	2	5	5	v	v	HQFP100 (14x14)
KM1M7AF50N	160	512	64	64	64	123	20	12	8	7	3	2	1	2	32	3	10	2	5	5	v	v	HQFP144 (20x20)

• KM1M7CFxx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (16-bit)	Power control PWM	RTC	Connectivity							ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
										Clock synchronous	UART	SPI	I2C	SM-Bus	CAN	Channel	Unit								
KM1M7CF06N	160	512	64	32	64	24	14	3	1	7	7	7	2	1	1	11	3	7	6	v	v	-	-	TQFP32 (7x7)	
KM1M7CF05N	160	512	64	32	64	38	14	5	1	7	7	7	2	1	1	16	3	12	10	v	v	-	-	TQFP48 (7x7)	
KM1M7CF04N	160	512	64	32	64	52	14	6	1	7	7	7	2	1	1	18	3	12	12	v	v	-	-	TQFP64 (10x10)	
KM1M7CF03N	160	512	64	32	64	68	14	8	1	7	7	7	2	1	1	26	3	12	12	v	v	-	-	TQFP80 (12x12)	
KM1M7CF16N	160	512	64	32	64	24	14	3	1	7	7	7	2	1	1	11	3	7	6	v	v	v	v	TQFP32 (7x7)	
KM1M7CF15N	160	512	64	32	64	38	14	5	1	7	7	7	2	1	1	16	3	12	10	v	v	v	v	TQFP48 (7x7)	
KM1M7CF14N	160	512	64	32	64	52	14	6	1	7	7	7	2	1	1	18	3	12	12	v	v	v	v	TQFP64 (10x10)	
KM1M7CF13N	160	512	64	32	64	68	14	8	1	7	7	7	2	1	1	26	3	12	12	v	v	v	v	TQFP80 (12x12)	

KM1M7B 逆变器控制 系列

KM1M7 系列 MCU 搭载 Arm® Cortex® M7 内核，是一款同时具有高处理能力及低功耗性能的 MCU。

该 MCU 内置适用于马达控制的高速，高精度模拟模块以及辅助功能，并采用具有 RWW (Read while Write) 功能的存储器，使 EEPROM 的读写更有效。可用于构建高效率 / 低功耗 / 小型化的电源管理系统。

• KM1M7BFxx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (16-bit)	Power control PWM	Connectivity							ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
									Clock synchronous	UART	SPI	I2C	SM-Bus	Channel	Unit									
KM1M7BF02K	160	256	32	64	64	82	20	10	7	6	3	2	-	23	3	10	2	5	5	v	v			HQFP100 (14x14)
KM1M7BF02M	160	384	48	64	64	82	20	10	7	6	3	2	-	23	3	10	2	5	5	v	v			HQFP100 (14x14)
KM1M7BF02N	160	512	64	64	64	82	20	10	7	6	3	2	-	23	3	10	2	5	5	v	v			HQFP100 (14x14)
KM1M7BF00K	160	256	32	64	64	123	20	12	8	7	3	2	1	32	3	10	2	5	5	v	v			HQFP144 (20x20)
KM1M7BF00M	160	384	48	64	64	123	20	12	8	7	3	2	1	32	3	10	2	5	5	v	v			HQFP144 (20x20)
KM1M7BF00N	160	512	64	64	64	123	20	12	8	7	3	2	1	32	3	10	2	5	5	v	v			HQFP144 (20x20)

NuMicro® 车用微控制器家族

NuMicro® CAN/ 车用微控制器是专为汽车应用而设计的微控制器系列，通过 AEC-Q100 认证，并具有内置的控制器局域网 (CAN) 2.0B 接口。

应用领域：倒车辅助系统、车用灯光、车身控制、抬头显示器

NuMicro® CAN / 车用系列 MCU 由以下产品系列组成：

M0A23 系列：通过 AEC-Q100 grade 1，支持高达 125° C、48 MHz、高达 32 KB Flash、CAN/LIN 接口、PDMA、DAC、ACMP

NUC131U 系列：通过 AEC-Q100 grade 2，支持高达 105° C、50 MHz、高达 68 KB Flash、CAN/LIN 接口、最多支持 6 组 UART

M0A23 系列

NuMicro® M0A23 是专为汽车应用而设计，基于 Arm® Cortex®-M0 内核，提供高达 32 KB 的闪存，4 KB SRAM，提供 CAN/LIN 接口和高稳定性，能够承受高达 125° C 的环境温度。

应用领域：车用、灯光、工业通讯、工业控制、电源控制等

• M0A23 系列

关键特性：硬件除法器、支持最高 125° C、CAN/LIN 接口、PDMA、单线式 UART

Part No.	System							Memory				Timer		Analog		Connectivity				Package		Status	Tool		Certification
	Core																								
													</												

NUC131U 系列

NuMicro® NUC131SD2AEU/NUC131LD2AEU 是基于 32 位 ARM® Cortex®-M0 的微控制器，运行速度高达 50 MHz，内建 68 KB Flash、8 KB SRAM、以及 4 KB ISP ROM、具有内置控制器局域网 (CAN) 2.0B 接口，并通过了 AEC-Q100 2 级认证

应用领域：电梯、马达控制、BMS、充电桩、CAN 模块等

• NUC131U 系列

关键特性：硬件除法器、LIN/CAN 接口、6 组 UART、24 路 100 MHz PWM

Part No.	System							Memory			Timer	Analog	Connectivity					Package		Status	Tool		Certification		
	Core																								
					Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	Timer (32-bit)	PWM (16-bit)	ADC (12-bit)	UART	LIN	SPI	PC	CAN	Package Type	Package Size	Mass Production	EVB	MP Programmer	AEC-Q100
NUC131LD2AEU	Cortex-M0	50	2.5	5.5	-40	105	42	4	68	Configurable	8	4	12	8	6	3	1	2	1	LQFP 48	7x7	✓	NK-NUC131U	NLG-NUC131L	Grade 2
NUC131SD2AEU	Cortex-M0	50	2.5	5.5	-40	105	56	4	68	Configurable	8	4	12	8	6	3	1	2	1	LQFP 64	7x7	✓	NK-NUC131U	NLG-NUC131S	Grade 2

NuMicro® Arm® Cortex®-M0 微控制器家族

新唐科技身为全球微控制器领导厂商，持续推出当代最先进的 32 位微控制器，内建 Arm® Cortex®-M0 内核，拥有多样且宽广的操作电压范围选择性 (1.8V ~ 3.6V 、2.5V ~ 5.5V)，可达工业控制的操作温度范围 (-40° C ~ 105° C)，内建高精度振荡器，兼备高稳定性和高抗干扰能力 (8 kV ESD，4 kV EFT)。

Arm® Cortex®-M0 / M23 微控制器家族包含 1.8V M031 系列、5V NUC029 系列；具有 USB 2.0 全速设备功能 NUC121/123/125/126 系列、具有 CAN 功能的 NUC131/230/240 系列、超值的 Mini51 和 M051 系列和超低功耗的 Nano 系列 (1.8V ~ 3.6V)，是工业控制系统、工业自动化、消费产品、嵌入式网络控制、能源、电力系统和电机控制的理想解决方案。

M029G/M030G/M031G 系列

新唐 NuMicro® M029G/M030G/M031G 是专为光模块所设计的 Arm® Cotex®-M0 32 位微控制器，配有硬件乘除法器。此系列工作频率可达 48/72 MHz，32/64 KB Flash 和 2/4/8 KB SRAM，以及 2 KB LDR0M 做为 ISP (In-System Programming) 使用。此系列配备硬件曼彻斯特编解码器及一组支持自动数据产生功能的 DAC (M031G 系列) 供调顶功能使用、丰富的模拟外围包含 12 位 DAC 及最高可达 2 Msps 的 12 位 ADC、内建精度 ±2° C 的温度传感器、QFN24 (3x3 mm) 及 QFN33 (4x4 mm) 小封装、支持 2 组 400 KHz (M029G)/ 1 MHz (M030G/ M031G) 从机模式 I²C。可工作于 2.7V ~ 3.6V 电压接口，工作温度为 -40° C 至 105° C。

专属应用：光模块。也適用於需類比週邊的小尺寸應用，如電源模塊、小屏幕、微投影機、小家電、穿戴裝置、傳感器等

• M029G 系列

关键特性：内建温度传感器，400K 从机模式 I²C、QFN24/33 小封装

• M030G 系列

关键特性：内建温度传感器，1MHz 从机模式 I²C、QFN24/33 小封装

Part No.	System									Memory					Clock		Timer		Analog		Connectivity			Package		Status	Tool			
	Core	Operating Frequency (MHz)	CRC	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	Temperature Sensor Accuracy (°C)	LDR0M Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	LIIC (kHz)	HIIC (MHz)	PLL (MHz)	Timer (32-bit)	BPWM (16-bit)	ADC (12-bit)	DAC (12-bit)	Internal Voltage Reference	UART	I2C	SPI /FS	Package Type	Package Size	Mass Production	EVB	MP Programmer
M029GGC0AE	Cortex-M0	48	√	2.7	3.6	-40	105	19	±2	2	32	Configurable	2	5	38.4	48	-	2	6	11	2	√	1	2	1	QFN24	3x3	-	NK-M029GGC	-
M030GGC1AE	Cortex-M0	48	√	2.7	3.6	-40	105	19	±2	2	32	Configurable	4	5	38.4	48	-	2	6	11	4	√	1	2	1	QFN24	3x3	√	NK-M030GTD	-
M030GGD1AE	Cortex-M0	48	√	2.7	3.6	-40	105	19	±2	2	64	Configurable	4	5	38.4	48	-	2	6	11	4	√	1	2	1	QFN24	3x3	√	NK-M030GTD	-
M030GTC1AE	Cortex-M0	48	√	2.7	3.6	-40	105	28	±2	2	32	Configurable	4	5	38.4	48	-	2	6	16	4	√	1	2	1	QFN33	4x4	√	NK-M030GTD	-
M030GTD1AE	Cortex-M0	48	√	2.7	3.6	-40	105	28	±2	2	64	Configurable	4	5	38.4	48	-	2	6	16	4	√	1	2	1	QFN33	4x4	√	NK-M030GTD	-

• M031G 系列

关键特性：硬件曼测斯特编解码器，一组支持自动数据产生功能 DAC，内建温度传感器，1 MHz 从机模式 I²C、QFN24/33 小封装

Part No.	System										Memory				Clock		Timer		Analog		Connectivity			Package		Status	Tool		Others			
	Core	Operating Frequency (MHz)	CRC	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	Temperature Sensor Accuracy (°C)	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA(ch)	LIRC (kHz)	HIRC (MHz)	PLL (MHz)	Timer (32-bit)	BPWM (16-bit)	ADC (12-bit)	DAC (12-bit)	Internal Voltage Reference	UART	I2C	SPI/FS	Package Type	Package Size	Mass Production	EVB	MP Programmer	DAC Auto Data Generation	Hardware Manchester Codec
M031GGC2AE	Cortex-M0	72	√	2.7	3.6	-40	105	19	±2	2	32	Configurable	8	7	38.4	48	72	6	6	11	4	√	1	2	1	QFN24	3x3	√	NK-M031GTD	-	√	√
M031GGD2AE	Cortex-M0	72	√	2.7	3.6	-40	105	19	±2	2	64	Configurable	8	7	38.4	48	72	6	6	11	4	√	1	2	1	QFN24	3x3	√	NK-M031GTD	-	√	√
M031GTC2AE	Cortex-M0	72	√	2.7	3.6	-40	105	28	±2	2	32	Configurable	8	7	38.4	48	72	6	6	16	4	√	1	2	1	QFN33	4x4	√	NK-M031GTD	-	√	√
M031GTD2AE	Cortex-M0	72	√	2.7	3.6	-40	105	28	±2	2	64	Configurable	8	7	38.4	48	72	6	6	16	4	√	1	2	1	QFN33	4x4	√	NK-M031GTD	-	√	√

M031 系列

NuMicro® M031 系列基於 Arm® Cortex®-M0 内核，是为 1.8V ~ 3.6V 工业应用而设计。配备高效与丰富的外设，如：2 Msps ADC，最高 144 MHz PWM，另外还符合 IEC-60730 安全规范和 USB 2.0 全速设备（无须外挂晶振），以及 16 K ~ 512 K 字节 Flash 内存、2 K ~ 96 K 字节 SRAM。

应用领域：工业控制、高精度仪表、无线充电、人机界面、物联网节点设备、安全系统、电机控制、通信系统等

• M031 系列

关键特性：配置最高 10 路 UART、144 MHz PWM、2 Msps ADC、24 MHz SPI、UART 支持 1 线模式、OTA、安全程序 ROM

Part No.	System						Memory				Timer				Analog		Connectivity						Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	RTC	ADC (12-bit)	ACMP	UART	QSPI	I2C	SMBUS (Supported by I2C)	USCI	SPI/FS	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
M031FB0AE	Cortex-M0	48	1.8	3.6	-40	105	15	2	16	2	-	2	6	-	-	7	-	3	-	2	-	-	1	-	512	TSSOP20	4.4x6.5	✓	NK-M031TB	NLG-20F
M031EB0AE	Cortex-M0	48	1.8	3.6	-40	105	23	2	16	2	-	2	6	-	-	9	-	3	-	2	-	-	1	-	512	TSSOP28	4.4x9.7	✓	NK-M031TB	NLG-28E
M031TB0AE	Cortex-M0	48	1.8	3.6	-40	105	27	2	16	2	-	2	6	-	-	10	-	3	-	2	-	-	1	-	512	QFN33	4x4	✓	NK-M031TB	NLG-32T
M031FC1AE	Cortex-M0	48	1.8	3.6	-40	105	15	2	32	4	2	4	6	-	-	7	-	3	-	2	-	-	1	-	512	TSSOP20	4.4x6.5	✓	NK-M031TC	NLG-20F
M031EC1AE	Cortex-M0	48	1.8	3.6	-40	105	23	2	32	4	2	4	6	-	-	9	-	3	-	2	-	-	1	-	512	TSSOP28	4.4x9.7	✓	NK-M031TC	NLG-28E
M031TC1AE	Cortex-M0	48	1.8	3.6	-40	105	27	2	32	4	2	4	6	-	-	10	-	3	-	2	-	-	1	-	512	QFN33	4x4	✓	NK-M031TC	NLG-32T
M031LC2AE	Cortex-M0	48	1.8	3.6	-40	105	42	2	32	8	5	4	12	-	-	12	2	3	-	2	-	1	1	-	512	LQFP48	7x7	✓	NK-M031SD	NLG-48L
M031SC2AE	Cortex-M0	48	1.8	3.6	-40	105	55	2	32	8	5	4	12	-	-	16	2	3	-	2	-	1	1	-	512	LQFP64	7x7	✓	NK-M031SD	NLG-64S
M030TD2AE-重点	Cortex-M0	48	1.8	3.6	-40	105	27	2	64	8	5	4	12	-	-	10	2	3	-	2	-	1	1	-	512	QFN33	4x4	✓	NK-M031SD	NLG-32T
M031TD2AE	Cortex-M0	48	1.8	3.6	-40	105	27	2	64	8	5	4	12	-	-	10	2	3	-	2	-	1	1	-	512	QFN33	4x4	✓	NK-M031SD	NLG-32T
M031LD2AE	Cortex-M0	48	1.8	3.6	-40	105	42	2	64	8	5	4	12	-	-	12	2	3	-	2	-	1	1	-	512	LQFP48	7x7	✓	NK-M031SD	NLG-48L
M031SD2AE	Cortex-M0	48	1.8	3.6	-40	105	55	2	64	8	5	4	12	-	-	16	2	3	-	2	-	1	1	-	512	LQFP64	7x7	✓	NK-M031SD	NLG-64S
M031TE3AE	Cortex-M0	48	1.8	3.6	-40	105	27	4	128	16	5	4	12	-	-	10	2	3	-	2	-	1	1	-	512	QFN33	4x4	✓	NK-M031SE	NLG-32T
M031LE3AE	Cortex-M0	48	1.8	3.6	-40	105	42	4	128	16	5	4	12	-	-	12	2	3	-	2	-	1	1	✓	512	LQFP48	7x7	✓	NK-M031SE	NLG-48L
M031SE3AE	Cortex-M0	48	1.8	3.6	-40	105	55	4	128	16	5	4	12	-	-	16	2	3	-	2	-	1	1	✓	512	LQFP64	7x7	✓	NK-M031SE	NLG-64S
M031LG6AE	Cortex-M0	72	1.8	3.6	-40	105	42	4	256	32	7	4	12	12	✓	12	2	6	1	2	1	2	1	✓	2048	LQFP48	7x7	✓	NK-M031KG	NLG-48L
M031LG8AE	Cortex-M0	72	1.8	3.6	-40	105	42	4	256	64	7	4	12	12	✓	12	2	6	1	2	1	2	1	✓	2048	LQFP48	7x7	✓	NK-M031KG	NLG-48L
M031SG6AE	Cortex-M0	72	1.8	3.6	-40	105	55	4	256	32	7	4	12	12	✓	16	2	6	1	2	1	2	1	✓	2048	LQFP64	7x7	✓	NK-M031KG	NLG-64S
M031SG8AE	Cortex-M0	72	1.8	3.6	-40	105	55	4	256	64	7	4	12	12	✓	16	2	6	1	2	1	2	1	✓	2048	LQFP64	7x7	✓	NK-M031KG	NLG-64S
M031KG6AE	Cortex-M0	72	1.8	3.6	-40	105	111	4	256	32	7	4	12	12	✓	16	2	6	1	2	1	2	1	✓	2048	LQFP128	14x14	✓	NK-M031KG	NLG-128KX
M031KG8AE	Cortex-M0	72	1.8	3.6	-40	105	111	4	256	64	7	4	12	12	✓	16	2	6	1	2	1	2	1	✓	2048	LQFP128	14x14	✓	NK-M031KG	NLG-128KX
M031SIAAE	Cortex-M0	72	1.8	3.6	-40	105	55	8	512	96	9	4	12	12	✓	16	2	8	1	-	-	2	1	✓	2048	LQFP64	7x7	✓	NK-M031KI	NLG-64S
M031KIAAE	Cortex-M0	72	1.8	3.6	-40	105	111	8	512	96	9	4	12	12	✓	16	2	8	1	-	-	2	1	✓	2048	LQFP128	14x14	✓	NK-M031KI	NLG-128KX

M032 系列

NuMicro® M032 系列基於 Arm® Cortex®-M0 内核，是为 1.8V ~ 3.6V 工业应用而设计。配备高效与丰富的外设，如：2 Msps ADC、最高 144 MHz PWM，另外还符合 IEC-60730 安全规范和 USB 2.0 全速设备（无须外挂晶振），以及 16 K ~ 512 K 字节 Flash 内存、2 K ~ 96 K 字节 SRAM。

应用领域：滑鼠、鍵盤、電競螢幕、人机界面、物联网节点设备、安全系统、电机控制、通信系统等

• M032 系列

关键特性：配置最高 10 路 UART、144 MHz PWM、2 Msps ADC、24 MHz SPI、UART 支持 1 线模式、OTA、USB 2.0 全速设备（无须外挂晶振）、安全程序 ROM

Part No.	System							Memory				Timer				Analog		Connectivity							Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	RTC	ADC (12-bit)	ACMP	UART	QSPI	I2C	SMBUS (Supported by I2C)	USCI	SPI/PS	USB FS Device	USB FS Device Crystal-less	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
M032EC1AE	Cortex-M0	48	1.8	3.6	-40	105	19	2	32	4	2	2	-	6	-	9	-	1	-	-	-	1	1	1	√	-	512	TSSOP28	4.4x9.7	√	NK-M032TC	NLG-28E
M032FC1AE	Cortex-M0	48	1.8	3.6	-40	105	11	2	32	4	2	2	-	6	-	3	-	1	-	-	-	1	1	1	√	-	512	TSSOP20	4.4x6.5	√	NK-M032TC	NLG-20F
M032KG6AE	Cortex-M0	72	1.8	3.6	-40	105	107	4	256	32	4	4	12	12	√	16	2	6	1	2	1	2	1	1	√	√	2048	LQFP128	14x14	√	NK-M032KG	NLG-128KX
M032KG8AE	Cortex-M0	72	1.8	3.6	-40	105	107	4	256	64	4	4	12	12	√	16	2	6	1	2	1	2	1	1	√	√	2048	LQFP128	14x14	√	NK-M032KG	NLG-128KX
M032KIAAE	Cortex-M0	72	1.8	3.6	-40	105	107	8	512	96	8	4	12	12	√	16	2	8	1	2	1	2	1	1	√	√	2048	LQFP128	14x14	√	NK-M032KI	NLG-128KX
M032LC2AE	Cortex-M0	48	1.8	3.6	-40	105	38	2	32	8	2	4	-	12	-	12	-	1	1	-	-	2	1	1	√	-	512	LQFP48	7x7	√	NK-M032LD	NLG-48L
M032LD2AE	Cortex-M0	48	1.8	3.6	-40	105	38	2	64	8	2	4	-	12	-	12	-	1	1	-	-	2	1	1	√	-	512	LQFP48	7x7	√	NK-M032LD	NLG-48L
NUC2201LE3AE-重点 M032LE3AE	Cortex-M0	48	1.8	3.6	-40	105	38	4	128	16	4	4	12	-	-	12	2	3	-	2	0	1	1	1	√	√	512	LQFP48	7x7	√	NK-M032SE	NLG-48L
M032LG6AE	Cortex-M0	72	1.8	3.6	-40	105	38	4	256	32	4	4	12	12	√	12	2	6	1	2	1	2	1	1	√	√	2048	LQFP48	7x7	√	NK-M032KG	NLG-48L
M032LG8AE	Cortex-M0	72	1.8	3.6	-40	105	38	4	256	64	4	4	12	12	√	12	2	6	1	2	1	2	1	1	√	√	2048	LQFP48	7x7	√	NK-M032KG	NLG-48L
M032SE3AE	Cortex-M0	48	1.8	3.6	-40	105	51	4	128	16	4	4	12	-	-	16	2	3	-	2	0	1	1	1	√	√	512	LQFP64	7x7	√	NK-M032SE	NLG-64S
M032SG6AE	Cortex-M0	72	1.8	3.6	-40	105	51	4	256	32	4	4	12	12	√	16	2	6	1	2	1	2	1	1	√	√	2048	LQFP64	7x7	√	NK-M032KG	NLG-64S
M032SG8AE	Cortex-M0	72	1.8	3.6	-40	105	51	4	256	64	4	4	12	12	√	16	2	6	1	2	1	2	1	1	√	√	2048	LQFP64	7x7	√	NK-M032KG	NLG-64S
M032SIAAE	Cortex-M0	72	1.8	3.6	-40	105	51	8	512	96	8	4	12	12	√	16	2	8	1	2	1	2	1	1	√	√	2048	LQFP64	7x7	√	NK-M032KI	NLG-64S
M032TC1AE	Cortex-M0	48	1.8	3.6	-40	105	23	2	32	4	2	2	-	6	-	10	-	1	-	-	-	1	1	1	√	-	512	QFN33	4x4	√	NK-M032TC	NLG-32T
M032TD2AE	Cortex-M0	48	1.8	3.6	-40	105	23	2	64	8	2	4	-	12	-	10	-	1	1	-	-	2	1	1	√	-	512	QFN33	4x4	√	NK-M032LD	NLG-32T

M031BT/M032BT 系列

M031BT/M032BT BLE MCU 系列微控制器基于 Arm® Cortex®-M0 内核，内置蓝牙低功耗 5.0 (BLE 5.0) 具有丰富的外设和模拟功能，适用于需要具有多种控制功能的无线连接的应用。M031BT/M032BT BLE MCU 系列运行频率高达 72 MHz，具有 64 KB 至 512 KB 闪存、8 KB 至 96 KB SRAM、1.8V ~ 3.6V 电源电压，在 -40°C ~ +85°C 工作温度范围内支持 5V I/O 容差。M031BT/M032BT BLE MCU 系列内置无线连接和丰富的 I/O 外设，使物联网应用更容易。

应用领域：IoT 边缘设备、智能家电、电机控制与资讯无线监视设备、无线连接功能个人医疗保健设备

• M031BT 系列

关键特性：低功耗蓝牙 5.0 (BLE 5.0)、96 MHz PWM、2 Msps ADC、24 MHz SPI、支持单管脚 UART 串口、SPROM (Security Protection ROM)

Part No.	System							Memory					Timer			Analog		Connectivity					Security	Wireless	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ADC (12-bit)	ACMP	UART	QSPI	SMBUS (Supported by I2C)	USCI	USB FS Device	USB FS Device Crystal-less	SPROM (B)	BLE	Package Type	Package Size	Mass Production	EVB	MP Programmer
M031BTYD2AN	Cortex-M0	48	1.8	3.6	-40	85	29	2	64	Configurable	8	5	✓	4	12	-	16	2	3	-	0	1	-	-	512	✓	QFN 48	5x5	✓	NK-M031BTYE	NLG-M031BTY
M031BTYE3AN	Cortex-M0	48	1.8	3.6	-40	85	29	4	128	Configurable	16	5	✓	4	12	-	16	2	3	-	0	1	-	-	512	✓	QFN 48	5x5	✓	NK-M031BTYE	NLG-M031BTY

• M032BT 系列

关键特性：低功耗蓝牙 5.0 (BLE 5.0)、144 MHz PWM、2 Msps ADC、OTA、USB 2.0 全速设备 (无须外挂晶振)

Part No.	System							Memory					Timer				Analog		Connectivity					Security	Wireless	Package		Status	Tool		
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ADC (12-bit)	ACMP	UART	QSPI	SMBUS (Supported by I2C)	USCI	USB FS Device	USB FS Device Crystal-less	SPROM (B)	BLE	Package Type	Package Size	Mass Production	EVB	MP Programmer
M032BTAG8AN	Cortex-M0	72	1.8	3.6	-40	85	43	4	256	Configurable	64	7	✓	4	12	12	16	2	6	1	1	2	1	✓	2048	✓	QFN 68	8x8	✓	NK-M032BTAI	NLG-M032BTA
M032BTAIAAN	Cortex-M0	72	1.8	3.6	-40	85	43	8	512	Configurable	96	9	✓	4	12	12	16	2	8	1	1	2	1	✓	2048	✓	QFN 68	8x8	✓	NK-M032BTAI	NLG-M032BTA

M071 系列

NuMicro® M071 微控制器是基于 Arm®Cortex®-M0 的 32 位微控制器，设计用于针距为 0.65 / 0.8 mm 的家电应用。该系列提供 16 KB 至 256 KB 闪存，8 至 20 KB SRAM，丰富的通信接口（例如 USB，UART，SPI，I2C 等），并带有 ADC，比较器和其他丰富的模拟接口。

应用领域：智能家电、电机控制、白色家电、工业控制

• M071 系列

关键特性：硬件除法器、VAI、RTC、EBI、PDMA

Part No.	System							Memory				Timer				Analog		Connectivity										Security	Package		Status	Tool		
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	PWM (16-bit)	RTC	ADC (12-bit)	ACMP	Internal Voltage Reference	UART	LIN	ISO-7816-3	SPI	I2C	USCI	SPI/FS	USB FS Device	USB FS Device Classless	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer	
M071MC2AE	Cortex-M0	50	2.5	5.5	-40	105	38	4	36	8	-	4	-	12	-	8	-	-	4	3	-	1	1	-	-	-	-	-	LQFP44	10x10	✓	NK-M071MD	NLG-M071M	
M071MD2AE	Cortex-M0	50	2.5	5.5	-40	105	38	4	68	8	-	4	-	12	-	8	-	-	4	3	-	1	1	-	-	-	-	-	LQFP44	10x10	✓	NK-M071MD	NLG-M071M	
M071R1D3AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	64	16	9	4	-	6	✓	12	-	-	3	3	-	2	2	-	-	1	✓	✓	-	LQFP64	14x14	✓	NK-M071R1E	NLG-M071R1
M071R1E3AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	128	16	9	4	-	6	✓	12	-	-	3	3	-	2	2	-	-	1	✓	✓	-	LQFP64	14x14	✓	NK-M071R1E	NLG-M071R1
M071SD3AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	64	16	9	4	-	6	✓	12	-	-	3	3	-	2	2	-	-	1	✓	✓	-	LQFP64	7x7	✓	NK-M071R1E	NLG-M071S
M071SE3AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	128	16	9	4	-	6	✓	12	-	-	3	3	-	2	2	-	-	1	✓	✓	-	LQFP64	7x7	✓	NK-M071R1E	M071S
M071VG4AE	Cortex-M0	72	2.5	5.5	-40	105	85	4	256	20	5	-	4	12	✓	20	2	✓	3	3	2	-	2	3	2	-	-	✓	2048	LQFP100	14x14	✓	NK-M071VG	NLG-M071V

Mini51 系列

NuMicro® Mini51 系列基於 Arm® Cortex®-M0 内核，最高可运行至 50 MHz，具 4 K ~ 32 K 字节 Flash、2 K / 4 K 字节 SRAM。NuMicro® Mini51 系列内嵌丰富 ADC、PWM 给不同的工业应用、支持低电压复位和欠压检测、96 位 UID 和 128 位 UCID。

应用领域：无线充电、智能家电、安全 / 报警、温度传感器、电机、工业控制等

• Mini51 系列

关键特性：可编程之数据 Flash 区域、用于存储 ISP 引导代码的 2 K 字节独立 Flash

Part No.	System						Memory			Timer				Analog				Connectivity				Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ECAP	ADC (10-bit)	ADC (12-bit)	ACMP	PGA	Internal Voltage Reference	UART	SPI	I2C	USCI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
MINI51FDE	Cortex-M0	24	2.5	5.5	-40	105	17	2	4	2	2	3	-	-	4	-	-	-	-	1	1	1	-	-	TSSOP20	4.4x6.5	√	NT-Mini51F	NLG-Mini51F
MINI51LDE	Cortex-M0	24	2.5	5.5	-40	105	30	2	4	2	2	6	-	-	8	-	2	-	-	1	1	1	-	-	LQFP48	7x7	√	NT-Mini51L	NLG-Mini51L
MINI51TDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	4	2	2	6	-	-	8	-	2	-	-	1	1	1	-	-	QFN33	4x4	√	NT-Mini51L	NLG-Mini51T
MINI51ZDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	4	2	2	6	-	-	8	-	2	-	-	1	1	1	-	-	QFN33	5x5	√	NT-Mini51L	NLG-Mini51Z
MINI52FDE	Cortex-M0	24	2.5	5.5	-40	105	17	2	8	2	2	3	-	-	4	-	-	-	-	1	1	1	-	-	TSSOP20	4.4x6.5	√	NT-Mini51F	NLG-Mini51F
MINI52LDE	Cortex-M0	24	2.5	5.5	-40	105	30	2	8	2	2	6	-	-	8	-	2	-	√	1	1	1	-	-	LQFP48	7x7	√	NT-Mini51L	NLG-Mini51L
MINI52TDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	8	2	2	6	-	-	8	-	2	-	-	1	1	1	-	-	QFN33	4x4	√	NT-Mini51L	NLG-Mini51T
MINI52ZDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	8	2	2	6	-	-	8	-	2	-	-	1	1	1	-	-	QFN33	5x5	√	NT-Mini51L	NLG-Mini51Z
MINI54FDE	Cortex-M0	24	2.5	5.5	-40	105	17	2	16	2	2	3	-	-	4	-	-	-	√	1	1	1	-	-	TSSOP20	4.4x6.5	√	NT-Mini51F	NLG-Mini51F
MINI54LDE	Cortex-M0	24	2.5	5.5	-40	105	30	2	16	2	2	6	-	-	8	-	2	-	√	1	1	1	-	-	LQFP48	7x7	√	NT-Mini51L	NLG-Mini51L
MINI54TDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	16	2	2	6	-	-	8	-	2	-	√	1	1	1	-	-	QFN33	4x4	√	NT-Mini51L	NLG-Mini51T
MINI54ZDE	Cortex-M0	24	2.5	5.5	-40	105	29	2	16	2	2	6	-	-	8	-	2	-	√	1	1	1	-	-	QFN33	5x5	√	NT-Mini51L	NLG-Mini51Z

• Mini55 系列

关键特性：支持硬件除法器

Part No.	System							Memory		Timer				Analog				Connectivity				Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ECAP	ADC (10-bit)	ADC (12-bit)	ACMP	PGA	Internal Voltage Reference	UART	SPI	I2C	USCI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
MINI55LDE	Cortex-M0	48	2.1	5.5	-40	105	33	2	17.5	2	2	6	-	-	12	-	2	-	√	2	1	1	-	-	LQFP48	7x7	√	NT-Mini55L	NLG-Mini51L
MINI55TDE	Cortex-M0	48	2.1	5.5	-40	105	29	2	17.5	2	2	6	-	-	12	-	2	-	√	2	1	1	-	-	QFN33	4x4	√	NT-Mini55L	NLG-Mini51T

• Mini57 系列

关键特性：2 组采样保持 ADC、可编程增益放大器

Part No.	System							Memory		Timer				Analog				Connectivity				Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ECAP	ADC (10-bit)	ADC (12-bit)	ACMP	PGA	Internal Voltage Reference	UART	SPI	I2C	USCI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
MINI57EDE	Cortex-M0	48	2.1	5.5	-40	105	22	2	29.5	4	2	6	2	3	-	8	2	✓	✓	-	-	-	2	512x3	TSSOP28	4.4x9.7	✓	NT-Mini57E	NLG-Mini57E
MINI57FDE	Cortex-M0	48	2.1	5.5	-40	105	18	2	29.5	4	2	6	2	3	-	8	2	✓	✓	-	-	-	2	512x3	TSSOP20	4.4x6.5	✓	NT-Mini57E	NLG-Mini57F
MINI57TDE	Cortex-M0	48	2.1	5.5	-40	105	22	2	29.5	4	2	6	2	3	-	8	2	✓	✓	-	-	-	2	512x3	QFN33	4x4	✓	NT-Mini57E	NLG-Mini57T

• Mini58 系列

关键特性：可配置数据 Flash

Part No.	System							Memory		Timer				Analog				Connectivity				Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	SRAM (KB)	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ECAP	ADC (10-bit)	ADC (12-bit)	ACMP	PGA	Internal Voltage Reference	UART	SPI	I2C	USCI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
MINI58FDE	Cortex-M0	50	2.5	5.5	-40	105	17	2.5	32	4	2	6	-	-	4	-	-	-	√	2	1	2	-	512	TSSOP20	4.4x6.5	√	NT-Mini58L	NLG-Mini51F
MINI58LDE	Cortex-M0	50	2.5	5.5	-40	105	30	2.5	32	4	2	6	-	-	8	-	2	-	√	2	1	2	-	512	LQFP48	7x7	√	NT-Mini58L	NLG-Mini51L
MINI58TDE	Cortex-M0	50	2.5	5.5	-40	105	29	2.5	32	4	2	6	-	-	8	-	2	-	√	2	1	2	-	512	QFN33	4x4	√	NT-Mini58L	NLG-Mini51T
MINI58ZDE	Cortex-M0	50	2.5	5.5	-40	105	29	2.5	32	4	2	6	-	-	8	-	2	-	√	2	1	2	-	512	QFN33	5x5	√	NT-Mini58L	NLG-Mini51Z

M051 系列

NuMicro® M051 系列基於 Arm® Cortex®-M0 内核，内嵌丰富资源与外设，如：8 K ~ 256 K 字节 Flash、4 K ~ 20 K 字节 SRAM、用于存储 ISP 引导代码的独立 4 K / 8 K 字节 Flash，最高支持 20 路 ADC 以及 24 路 PWM。支持低电压复位和欠压检测、96 位 UID 與 128 位 UCID 等功能。

应用领域：工业控制、安全 / 报警、温度传感器、电机等

• M051 系列

关键特性：4 K 字节数据闪存、支持硬件除法器、支持 4 组比较器

Part No.	System							Memory				Timer				Analog		Connectivity					Package		Status	Tool	
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	ADC (12-bit)	ACMP	UART	LIN	SPI	I2C	EBI	Package Type	Package Size	Mass Production	EVB	MP Programmer
M052LBN	Cortex-M0	50	2.5	5.5	-40	85	40	4	8	4	4	√	-	4	8	8	2	2	2	2	1	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M052LDE	Cortex-M0	50	2.5	5.5	-40	105	40	4	8	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M052LDN	Cortex-M0	50	2.5	5.5	-40	85	40	4	8	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M052ZBN	Cortex-M0	50	2.5	5.5	-40	85	24	4	8	4	4	√	-	4	5	5	2	2	2	1	1	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M052ZDE	Cortex-M0	50	2.5	5.5	-40	105	24	4	8	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M052ZDN	Cortex-M0	50	2.5	5.5	-40	85	24	4	8	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M054LBN	Cortex-M0	50	2.5	5.5	-40	85	40	4	16	4	4	√	-	4	8	8	2	2	2	2	1	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M054LDE	Cortex-M0	50	2.5	5.5	-40	105	40	4	16	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M054LDN	Cortex-M0	50	2.5	5.5	-40	85	40	4	16	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M054ZBN	Cortex-M0	50	2.5	5.5	-40	85	24	4	16	4	4	√	-	4	5	5	2	2	2	1	1	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M054ZDE	Cortex-M0	50	2.5	5.5	-40	105	24	4	16	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M054ZDN	Cortex-M0	50	2.5	5.5	-40	85	24	4	16	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M058LBN	Cortex-M0	50	2.5	5.5	-40	85	40	4	32	4	4	√	-	4	8	8	2	2	2	2	1	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M058SSAN-重点	Cortex-M0	50	2.5	5.5	-40	105	40	4	32	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M058LDE	Cortex-M0	50	2.5	5.5	-40	85	40	4	32	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M058LDN	Cortex-M0	50	2.5	5.5	-40	85	40	4	32	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M058ZBN	Cortex-M0	50	2.5	5.5	-40	85	24	4	32	4	4	√	-	4	5	5	2	2	2	1	1	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M058ZDE	Cortex-M0	50	2.5	5.5	-40	105	24	4	32	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M058ZDN	Cortex-M0	50	2.5	5.5	-40	85	24	4	32	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M0516LBN	Cortex-M0	50	2.5	5.5	-40	85	40	4	64	4	4	√	-	4	8	8	2	2	2	2	1	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M0516LDE	Cortex-M0	50	2.5	5.5	-40	105	40	4	64	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M0516LDN	Cortex-M0	50	2.5	5.5	-40	85	40	4	64	4	4	√	√	4	8	8	4	2	2	2	2	√	LQFP48	7x7	√	NK-M051L	NLG-M051L
M0516ZBN	Cortex-M0	50	2.5	5.5	-40	85	24	4	64	4	4	√	-	4	5	5	2	2	2	1	1	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M0516ZDE	Cortex-M0	50	2.5	5.5	-40	105	24	4	64	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z
M0516ZDN	Cortex-M0	50	2.5	5.5	-40	85	24	4	64	4	4	√	√	4	5	5	4	2	2	1	2	-	QFN33	5X5	√	NK-M051L	NLG-M051Z

• M0518 系列

关键特性：可配置数据闪存、支持 6 组 UART 比较器、支持 24 路高达 100 MHz PWM



Part No.	System							Memory					Timer				Analog	Connectivity			Package		Status	Tool		
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ADC (12-bit)	UART	SPI	I2C	Package Type	Package Size	Mass Production	EVB	MP Programmer
M0518LC2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	36	Configurable	8	-	√	√	4	12	12	8	6	1	2	LQFP48	7x7	√	NT-M0518S	NLG-M0518L
M0518LD2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	68	Configurable	8	-	√	√	4	12	12	8	6	1	2	LQFP48	7x7	√	NT-M0518S	NLG-M0518L
M0518SC2AE	Cortex-M0	50	2.5	5.5	-40	105	56	4	36	Configurable	8	-	√	√	4	12	12	8	6	1	2	LQFP64	7x7	√	NT-M0518S	NLG-M0518S
M0518SD2AE	Cortex-M0	50	2.5	5.5	-40	105	56	4	68	Configurable	8	-	√	√	4	12	12	8	6	1	2	LQFP64	7x7	√	NT-M0518S	NLG-M0518S

• M0519 系列

关键特性：支持硬件除法器、2 组独立 ADC、2 组 OPA、3 组比较器

Part No.	System							Memory				Timer				Analog		Connectivity			Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	WWDT	Timer (32-bit)	BPWM (16-bit)	EPWM (16-bit)	ECAP	ADC (12-bit)	ACMP	UART	LIN	SPI	I2C	Package Type	Package Size	Mass Production	EVB	MP Programmer
M0519LD3AE	Cortex-M0	72	2.5	5.5	-40	105	38	8	64	4	16	√	√	4	2	4	-	16	2	2	2	1	1	LQFP48	7X7	√	NT-M0519V	NLG-M0519L
M0519LE3AE	Cortex-M0	72	2.5	5.5	-40	105	38	8	128	Configurable	16	√	√	4	2	4	-	16	2	2	2	1	1	LQFP48	7X7	√	NT-M0519V	NLG-M0519L
M0519SD3AE	Cortex-M0	72	2.5	5.5	-40	105	51	8	64	4	16	√	√	4	2	8	-	16	2	2	2	2	1	LQFP64	7X7	√	NT-M0519V	NLG-M0519S
M0519SE3AE	Cortex-M0	72	2.5	5.5	-40	105	51	8	128	Configurable	16	√	√	4	2	8	-	16	2	2	2	2	1	LQFP64	7X7	√	NT-M0519V	NLG-M0519S
M0519VE3AE	Cortex-M0	72	2.5	5.5	-40	105	82	8	128	Configurable	16	√	√	4	2	12	6	16	3	2	2	3	1	LQFP100	14X14	√	NT-M0519V	NLG-M0519V

• M0564 系列

关键特性：可配置 Flash 内存、支持硬件除法器、支持 8 组 UART、高达 144 MHz PWM、800 ksp/s ADC

Part No.	System							Memory				Timer				Analog		Connectivity					Security	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	PDMA (ch)	SRAM (KB)	WDT	WWDT	Timer/ PWM	PWM (16-bit)	ADC (12-bit)	RTC	ACMP	UART	ISO-7816-3	I2C	USCI	SPI/ PS	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
M0564LE4AE	Cortex-M0	72	2.5	5.5	-40	105	41	4	128	Configurable	20	5	✓	✓	4	12	✓	10	2	3	2	2	3	2	✓	2048	LQFP48	7x7	✓	NT-M0564V	NLG-M0564L
M0564LG4AE	Cortex-M0	72	2.5	5.5	-40	105	41	4	128	Configurable	20	5	✓	✓	4	12	✓	10	2	3	2	2	3	2	✓	2048	LQFP48	7x7	✓	NT-M0564V	NLG-M0564L
M0564SE4AE	Cortex-M0	72	2.5	5.5	-40	105	53	4	256	Configurable	20	5	✓	✓	4	12	✓	15	2	3	2	2	3	2	✓	2048	LQFP64	7x7	✓	NT-M0564V	NLG-M0564S
M0564SG4AE	Cortex-M0	72	2.5	5.5	-40	105	53	4	128	Configurable	20	5	✓	✓	4	12	✓	15	2	3	2	2	3	2	✓	2048	LQFP64	7x7	✓	NT-M0564V	NLG-M0564S
M0564VG4AE	Cortex-M0	72	2.5	5.5	-40	105	85	4	256	Configurable	20	5	✓	✓	4	12	✓	20	2	3	2	2	3	2	✓	2048	LQF100	14X14	✓	NT-M0564V	NLG-M0564V

NUC029 系列

NuMicro®NUC029 系列是为工业应用而设计的，拥有强大的抗干扰 EFT 特性，基於 ARM® Cortex®-M0 内核，5V 工作电压。NUC029 系列提供 16 K ~ 256 K 字节 Flash，2 K ~ 20 K 字节 SRAM，内嵌高效能外设，如：12 位 ADC、UART、PWM、SPI、I²C 等。个别型号支持硬件除法器、比较器、无须外挂晶振，直接支持 USB 2.0 全速设备。

应用领域：工业控制、高精度仪表、人机界面、电机控制、通信系统等

• NUC029 系列

关键特性：5V 工业控制、高抗干扰 (EFT 4.4 kV，ESD HBM 8 kV)

Part No.	System							Memory				Timer				Analog	Connectivity						Security	Package		Status	Tool					
	Core	Operating Frequency (MHz)	Operating Voltage (min)	Operating Voltage (max)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDRAM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	Timer/ PWM	PWM (16-bit)	ADC (12-bit)	ACMP	ACMP	UART	SPI	PC	USCI	SPI/FS	USB FS Device	USB FS Device Crystal-less	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer	
NUC029FAE	Cortex-M0	24	2.5	5.5	-40	105	17	2	16	Configurable	2	-	2	3	-	4	-	2	1	1	-	-	-	-	√	-	TSSOP20	4.4x6.5	√	NT-NUC029F	NLG-NUC029FA	
NUC029KGE	Cortex-M0	72	2.5	5.5	-40	105	86	4	256	Configurable	20	5	4	12	√	-	20	2	3	-	2	3	2	1	√	√	2048	LQFP128	14x14	√	NT-NUC029SG	NLG-NUC029KG
NUC029LAN	Cortex-M0	50	2.5	5.5	-40	85	40	4	64	4	4	-	4	8	-	-	8	4	2	2	-	-	-	-	√	-	LQFP48	7x7	√	NK-NUC029L	NLG-NUC029LD	
NUC029LDE	Cortex-M0	50	2.5	5.5	-40	105	42	4	68	Configurable	20	-	4	12	-	-	8	-	4	1	-	-	-	-	-	-	LQFP48	7x7	√	NT-NUC029SD	NLG-NUC029LD	
NUC029LEE	Cortex-M0	72	2.5	5.5	-40	105	31	8	128	Configurable	16	9	4	4	√	-	10	-	2	1	-	-	1	√	√	-	LQFP48	7x7	√	NT-NUC029SE	NLG-NUC029LE	
NUC029LGE	Cortex-M0	72	2.5	5.5	-40	105	35	4	256	Configurable	20	5	4	10	√	-	9	2	3	-	2	3	2	1	√	√	2048	LQFP48	7x7	√	NT-NUC029SG	NLG-NUC029LG
NUC029NAN	Cortex-M0	50	2.5	5.5	-40	85	40	4	64	4	4	-	4	8	-	-	8	4	2	2	-	-	-	-	√	-	QFN48	7x7	√	NK-NUC029L	NLG-NUC029NA	
NUC029SDE	Cortex-M0	50	2.5	5.5	-40	105	56	4	68	Configurable	20	-	4	12	-	-	8	-	4	1	-	-	-	-	-	-	LQFP64	7x7	√	NT-NUC029SD	NLG-NUC029SD	
NUC029SEE	Cortex-M0	72	2.5	5.5	-40	105	45	8	128	Configurable	16	9	4	6	√	-	12	-	3	2	-	-	1	√	√	-	LQFP64	7x7	√	NT-NUC029SE	NLG-NUC029SE	
NUC029SGE	Cortex-M0	72	2.5	5.5	-40	105	49	4	256	Configurable	20	5	4	12	√	-	15	2	3	-	2	3	2	1	√	√	2048	LQFP64	7x7	√	NT-NUC029SG	NLG-NUC029SG
NUC029TAN	Cortex-M0	50	2.5	5.5	-40	85	24	4	32	4	4	-	4	5	-	-	5	3	2	1	-	-	-	-	√	-	QFN33	4x4	√	NK-NUC029L	NLG-NUC029TA	
NUC029ZAN	Cortex-M0	50	2.5	5.5	-40	85	24	4	64	4	4	-	4	5	-	-	5	3	2	1	-	-	-	-	√	-	QFN33	5x5	√	NK-NUC029L	NLG-NUC029ZA	

NUC121 系列

NuMicro® NUC121 系列基於 Arm® Cortex®-M0 内核，具 32 K ~ 256 K 字节 Flash、8 K ~ 20 K 字节 SRAM、4 K 字节 独立 Flash 字节作为在线系统编程（In-System Programming）用途。本系列支持 USB 接口，内建 48 MHz 高速振荡器而无须外挂晶振（不包含 NUC123），最高支持 24 路 PWM 和 20 路 ADC。

关键特性：大于 4 K 字节独立 Flash 作为在线系统编程（In-System Programming）用途；支持 USB 2.0 全速设备，无须外部晶振（NUC123 不支持无须外部晶振的功能）。NUC125/126 支持电压调整接口（VAI），有独立的 VDDIO，可支援 1.8V 至 5.5V 电压范围，弹性满足不同接口电压的需求。

应用领域：USB 复合设备、电竞鼠标、电竞键盘、USB 耳机、工业控制、物联网设备 ... 等

• NUC121 系列

Part No.	System							Memory				Timer				Analog	Connectivity						Security	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	PDMA (ch)	SRAM (KB)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ADC (12-bit)	UART	LIN	PC	USCI	SPI/PS	USB FS Device	USB FS Device Crystal-less	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
NUC121LC2AE	Cortex-M0	50	2.5	5.5	-40	105	38	4.5	32	Configurable	8	5	✓	✓	4	24	14	10	1	1	2	1	1	1	✓	512	LQFP48	7x7	✓	NT-NUC121S	NLG-NUC121L
NUC121SC2AE	Cortex-M0	50	2.5	5.5	-40	105	52	4.5	32	Configurable	8	5	✓	✓	4	24	17	12	1	1	2	1	1	1	✓	512	LQFP64	7x7	✓	NT-NUC121S	NLG-NUC121S
NUC121ZC2AE	Cortex-M0	50	2.5	5.5	-40	105	22	4.5	32	Configurable	8	5	✓	✓	4	17	7	4	1	1	2	1	1	1	✓	512	QFN33	5x5	✓	NT-NUC121S	NLG-NUC121Z

关键特性：电压调整接口（VAI）支援 1.8V 至 5.5V 电压范围、最高支持 12 路 ADC

Part No.	System							Memory					Timer		Analog	Connectivity					Security	Package		Status	Tool						
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	PDMA (ch)	SRAM (KB)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	BPWM (16-bit)	ADC (12-bit)	UART	LIN	PC	USCI	SPI/PS	USB FS Device	USB FS Device Crystalless	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
NUC125LC2AE	Cortex-M0	50	2.5	5.5	-40	105	37	4.5	32	Configurable	8	5	✓	✓	4	23	13	9	1	1	2	1	1	1	✓	512	LQFP48	7x7	✓	NT-NUC125S	NLG-NUC125L
NUC125SC2AE	Cortex-M0	50	2.5	5.5	-40	105	51	4.5	32	Configurable	8	5	✓	✓	4	23	16	11	1	1	2	1	1	1	✓	512	LQFP64	7x7	✓	NT-NUC125S	NLG-NUC125S
NUC125ZC2AE	Cortex-M0	50	2.5	5.5	-40	105	22	4.5	32	Configurable	8	5	✓	✓	4	17	7	4	1	1	2	1	1	1	✓	512	QFN33	5x5	✓	NT-NUC125S	NLG-NUC125Z

• NUC123 系列

Part No.	System							Memory					Timer			Analog	Connectivity					Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	ADC (10-bit)	UART	SPI	I2C	I2S	PS/2 Device	USB F/S Device	Package Type	Package Size	Mass Production	EVB	MP Programmer	
NUC123LC2AE1	Cortex-M0	72	2.5	5.5	-40	105	36	4	36	Configurable	12	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP48	7x7	✓	NK-NUC123SE	NLG-NUC123L
NUC123LC2AN1	Cortex-M0	72	2.5	5.5	-40	85	36	4	36	Configurable	12	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP48	7x7	✓	NK-NUC123SE	NLG-NUC123L
NUC123LD4AE0	Cortex-M0	72	2.5	5.5	-40	105	36	4	68	Configurable	20	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP48	7x7	✓	NK-NUC123SE	NLG-NUC123L
NUC123LD4AN0	Cortex-M0	72	2.5	5.5	-40	85	36	4	68	Configurable	20	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP48	7x7	✓	NK-NUC123SE	NLG-NUC123L
NUC123SC2AE1	Cortex-M0	72	2.5	5.5	-40	105	47	4	36	Configurable	12	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP64	7x7	✓	NK-NUC123SE	NLG-NUC123S
NUC123SC2AN1	Cortex-M0	72	2.5	5.5	-40	85	47	4	36	Configurable	12	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP64	7x7	✓	NK-NUC123SE	NLG-NUC123S
NUC123SD4AE0	Cortex-M0	72	2.5	5.5	-40	105	47	4	68	Configurable	20	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP64	7x7	✓	NK-NUC123SE	NLG-NUC123S
NUC123SD4AN0	Cortex-M0	72	2.5	5.5	-40	85	47	4	68	Configurable	20	6	✓	✓	4	4	8	2	3	2	1	1	1	LQFP64	7x7	✓	NK-NUC123SE	NLG-NUC123S
NUC123ZC2AE1	Cortex-M0	72	2.5	5.5	-40	105	20	4	36	Configurable	12	6	✓	✓	4	3	3	1	3	1	1	-	1	QFN33	5x5	✓	NK-NUC123SE	NLG-NUC123Z
NUC123ZC2AN1	Cortex-M0	72	2.5	5.5	-40	85	20	4	36	Configurable	12	6	✓	✓	4	2	3	1	3	1	1	-	1	QFN33	5x5	✓	NK-NUC123SE	NLG-NUC123Z
NUC123ZD4AE0	Cortex-M0	72	2.5	5.5	-40	105	20	4	68	Configurable	20	6	✓	✓	4	3	3	1	3	1	1	-	1	QFN33	5x5	✓	NK-NUC123SE	NLG-NUC123Z
NUC123ZD4AN0	Cortex-M0	72	2.5	5.5	-40	85	20	4	68	Configurable	20	6	✓	✓	4	2	3	1	3	1	1	-	1	QFN33	5x5	✓	NK-NUC123SF	NLG-NUC123Z

• NUC126 系列 (NRND)

关键特性：最高支持 12 路 144 MHz PWM、20 路 800 kSPS ADC 和硬件除法器

Part No.	System							Memory					Timer				Analog		Connectivity							Security	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	Timer/ PWM	PWM (16-bit)	RTC	BPWM (16-bit)	ADC (12-bit)	ACMP	UART	ISO-7816-3	PC	USCI	SPI/PS	USB FS Device	USB FS Device	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer		
NUC126LE4AE	Cortex-M0	72	2.5	5.5	-40	105	35	4	128	Configurable	20	5	v	✓	4	10	✓	-	9	2	3	2	2	3	2	1	✓	✓	2048	LQFP48	7x7	✓	NT-NUC126V	NLG-NUC126L
NUC126LG4AE	Cortex-M0	72	2.5	5.5	-40	105	49	4	256	Configurable	20	5	v	✓	4	10	✓	-	9	2	3	2	2	3	2	1	✓	✓	2048	LQFP48	7x7	✓	NT-NUC126V	NLG-NUC126L
NUC126NE4AE	Cortex-M0	72	2.5	5.5	-40	105	35	4	128	Configurable	20	5	v	✓	4	10	✓	-	9	2	3	2	2	3	2	1	✓	✓	2048	QFN48	7x7	✓	NT-NUC126V	NLG-NUC126N
NUC126SE4AE	Cortex-M0	72	2.5	5.5	-40	105	49	4	128	Configurable	20	5	v	✓	4	12	✓	-	15	2	3	2	2	3	2	1	✓	✓	2048	LQFP64	7x7	✓	NT-NUC126V	NLG-NUC126S
NUC126SG4AE	Cortex-M0	72	2.5	5.5	-40	105	49	4	256	Configurable	20	5	v	✓	4	12	✓	-	15	2	3	2	2	3	2	1	✓	✓	2048	LQFP64	7x7	✓	NT-NUC126V	NLG-NUC126S
NUC126VG4AE	Cortex-M0	72	2.5	5.5	-40	105	81	4	256	Configurable	20	5	v	✓	4	12	✓	-	20	2	3	2	2	3	2	1	✓	✓	2048	LQFP100	14x14	✓	NT-NUC126V	NLG-NUC126V

• NUC1261 系列

关键特性：最高支持 12 路 144 MHz PWM、20 路 800 kpsps ADC 和硬件除法器

Part No.	System							Memory				Timer				Analog		Connectivity						Security	Package		Status	Tool						
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	PDMA (ch)	SRAM (KB)	WDT	WWDT	PWM (16-bit)	Timer/PWM	RTC	BPWM (16-bit)	ADC (12-bit)	ACMP	UART	ISO-7816-3	PC	USCI	SPI/RS	USB FS Device	USB FS Device Crystal-less	EBI	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer
NUC1261NE4AE	Cortex-M0	72	2.5	5.5	-40	105	35	4	128	Configurable	20	5	✓	✓	4	10	✓	-	9	2	3	2	3	2	1	✓	✓	2048	QFN 48	7x7	✓	NT-NUC1261S	NLG-NUC126N	NLG-NUC126L
NUC1261LE4AE	Cortex-M0	72	2.5	5.5	-40	105	35	4	128	Configurable	20	5	✓	✓	4	10	✓	-	9	2	3	2	3	2	1	✓	✓	2048	LQFP 48	7x7	✓	NT-NUC1261S	NLG-NUC126L	NLG-NUC126L
NUC1261LG4AE	Cortex-M0	72	2.5	5.5	-40	105	35	4	256	Configurable	20	5	✓	✓	4	10	✓	-	9	2	3	2	3	2	1	✓	✓	2048	LQFP 48	7x7	✓	NT-NUC1261S	NLG-NUC126L	NLG-NUC126N
NUC1261SE4AE	Cortex-M0	72	2.5	5.5	-40	105	49	4	128	Configurable	20	5	✓	✓	4	12	✓	-	15	2	3	2	3	2	1	✓	✓	2048	LQFP 64	7x7	✓	NT-NUC1261S	NLG-NUC126S	NLG-NUC126S
NUC1261SG4AE	Cortex-M0	72	2.5	5.5	-40	105	49	4	256	Configurable	20	5	✓	✓	4	12	✓	-	15	2	3	2	3	2	1	✓	✓	2048	LQFP 64	7x7	✓	NT-NUC1261S	NLG-NUC126S	NLG-NUC126S

• NUC1262 系列

新唐科技 NuMicro® NUC1262 系列基于 Arm® Cortex®-M23 内核，支持 Arm®v8-M 指令集架构并自带除法器，工作频率高达 72 MHz，内建 128 K 字节闪存及 20 K 字节 SRAM。内建灯条控制接口（LED Light Strip Interface, LLSI）；内建 48 MHz 高速振荡器而无须外挂晶振的 USB 2.0 全速装置接口，可以应用于计算机与行动周边，可运作在 2.5V 至 5.5V 宽工作电压和 -40°C 至 105°C 工业温度范围。

关键特性：最高支持 10 路 灯条控制接口（LED Light Strip Interface, LLSI）、最高支持 24 路 72 MHz BPWM、最高支持 10 路 800 kpsps ADC 和 10 路 PDMA

Part No.	System							Memory				Timer				Analog	Connectivity				Security	Package		Status	Tool					
	Core	Operating Frequency (MHz)		Operating Voltage (min) (V)		Operating Temperature (min) (°C)		Operating Temperature (max) (°C)		APROM Flash (KB)	Data Flash(KB)	SRAM(KB)	PDMA(ch)	WDT	WWDT	BPWM(16-bit)	Timer/PWM	RTC	ADC(12-bit)	LLSI	UART	PC	SPI/PS	USB FS Device	USB FS Device Crystal-less	SPROM(B)	Package Type	Package Size	Mass Production	Evaluation Board (Ordering No.)
NUC1262NE4AE	Cortex-M23	72	2.5	5.5	-40	105	38	4	128	Configurable	20	10	✓	✓	4	24	-	8	8	2	2	2	1	✓	2048	QFN48	7x7	✓	NK-NUC1262SE	NLG-NUC126N
NUC1262LE4AE	Cortex-M23	72	2.5	5.5	-40	105	38	4	128	Configurable	20	10	✓	✓	4	24	-	8	8	2	2	2	1	✓	2048	LQFP48	7x7	✓	NK-NUC1262SE	NLG-NUC126L
NUC1262SE4AE	Cortex-M23	72	2.5	5.5	-40	105	50	4	128	Configurable	20	10	✓	✓	4	24	-	8	10	2	2	2	1	✓	2048	LQFP64	7x7	✓	NK-NUC1262SE	NLG-NUC126S
NUC1262YE4AE	Cortex-M23	72	2.5	5.5	-40	105	38	4	128	Configurable	20	10	✓	✓	4	24	-	8	8	2	2	2	1	✓	2048	QFN48	5x5	✓	NK-NUC1262SE	NLG-NUC126Y

• NUC1263 系列

新唐科技 NuMicro® NUC1263 系列基于 Arm® Cortex®-M23 内核，支持 Arm®v8-M 指令集架构并自带除法器，工作频率高达 72 MHz，内建 64 K 字节闪存及 20 K 字节 SRAM。内建灯条控制接口（LED Light Strip Interface, LLSI），I²C slave 沟通接口；内建 48 MHz 高速振荡器而无须外挂晶振的 USB 2.0 全速装置接口，可以应用于计算机与行动周边，可运作在 2.5V 至 5.5V 宽工作电压和 -40°C 至 105°C 工业温度范围。

关键特性：最高支持 6 路 灯条控制接口（LED Light Strip Interface, LLSI）、最高支持 24 路 144 MHz BPWM、2 路 I²C 接口、16 路 800 kpsps ADC 和 10 路 PDMA

Part No.	System					Memory					Timer				Analog		Connectivity					Security	Package		Status	Tool								
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDRAM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	WMDT	Timer/ PWM	BPWM (16-bit)	RTC	ADC (12-bit)	ACMP	DAC	I²C	LLSI	UART	PC	SPI/FS	USB FS Device	USB FS Device	USB FS Device	Crystalless	SPROM(B)	Package Type	Package Size	Mass Production	EVB
NUC1263ZD4CE	Cortex-M23	72	2.5	5.5	-40	105	22	4	64	Configurable	20	10	✓	✓	4	24	-	16	4	4	2	6	3	3	3	3	1	✓	2048	QFN 33	5x5	2023 Q2	NK-NUC1263S	NLG-NUC126Z
NUC1263ND4CE	Cortex-M23	72	2.5	5.5	-40	105	36	4	64	Configurable	20	10	✓	✓	4	24	-	16	4	4	2	6	3	3	3	3	1	✓	2048	QFN 48	7x7	2023 Q2	NK-NUC1263S	NLG-NUC126N
NUC1263LD4CE	Cortex-M23	72	2.5	5.5	-40	105	36	4	64	Configurable	20	10	✓	✓	4	24	-	16	4	4	2	6	3	3	3	3	1	✓	2048	LQFP 48	7x7	2023 Q2	NK-NUC1263S	NLG-NUC126L
NUC1263SD4CE	Cortex-M23	72	2.5	5.5	-40	105	49	4	64	Configurable	20	10	✓	✓	4	24	-	16	4	4	2	6	3	3	3	3	1	✓	2048	LQFP 64	7x7	2023 Q2	NK-NUC1263S	NLG-NUC126S

NUC130 系列

NuMicro® NUC130/131/140/230/240 CAN 总线系列，基於 Arm® Cortex®-M0 内核，具 32 K ~ 128 K 字节闪存、4 K ~ 16 K 字节 SRAM、4 K / 8 K 独立 Flash 字节作为在线系统编程 (In-System Programming) 用途；该系列是专门为 CAN 应用而设计的，并且还配备了各种通用丰富外设，如：LIN、USB 2.0 全速设备、UART、I²C、ADC、比较器，支持低电压复位和欠压检测。

NUC130 CAN 系列	USB FS	LIN	CAN
NUC131		✓	✓
NUC130		✓	✓
NUC140	✓	✓	✓
NUC230		✓	✓
NUC240	✓	✓	✓

• NUC131 系列

Part No.	System							Memory				Timer				Analog	Connectivity						Package		Status	Tool			
	Core																												
NUC131LC2AE	Cortex-M0	50	2.5	5.5	-40	105	56	4	36	Configurable	8	✓	✓	4	12	12	8	6	3	1	2	1	-	-	LQFP 48	7x7	✓	NK-NUC131	NLG-NUC131L
NUC131LD2AE	Cortex-M0	50	2.5	5.5	-40	105	56	4	68	Configurable	8	✓	✓	4	12	12	8	6	3	1	2	1	-	-	LQFP 48	7x7	✓	NK-NUC131	NLG-NUC131L
NUC131SC2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	36	Configurable	8	✓	✓	4	12	12	8	6	3	1	2	1	-	-	LQFP 64	7x7	✓	NK-NUC131	NLG-NUC131S
NUC131SD2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	68	Configurable	8	✓	✓	4	12	12	8	6	3	1	2	1	-	-	LQFP 64	7x7	✓	NK-NUC131	NLG-NUC131S
NUC1311LC2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	36	Configurable	8	✓	✓	4	12	-	8	4	3	1	1	1	-	-	LQFP 48	7x7	✓	NK-NUC1311	NLG-NUC1311
NUC1311LD2AE	Cortex-M0	50	2.5	5.5	-40	105	42	4	68	Configurable	8	✓	✓	4	12	-	8	4	3	1	1	1	-	-	LQFP 48	7x7	✓	NK-NUC1311	NLG-NUC1311

• NUC230 系列

Part No.	System								Memory				Timer				Analog	Connectivity								Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB) LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	PWM (16-bit) Timer (32-bit)	RTC	ADC (12-bit)	ACMP	UART	LIN	ISO-7816-3	SP1	PC	PS	CAN	PS/2 Device	EBI	Package Type	Package Size	Mass Production	EVB	MP Programmer			
NUC230LC2AE	Cortex-M0	72	2.5	5.5	-40	105	35	8	32	4	8	9	√	√	4	4	√	7	1	3	3	2	1	2	1	2	-	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC230LD2AE	Cortex-M0	72	2.5	5.5	-40	105	35	8	64	4	8	9	√	√	4	4	√	7	1	3	3	2	1	2	1	2	-	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC230LE3AE	Cortex-M0	72	2.5	5.5	-40	105	35	8	128	Configurable	16	9	√	√	4	4	√	7	1	3	3	2	1	2	1	2	-	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC230SC2AE	Cortex-M0	72	2.5	5.5	-40	105	49	8	32	4	8	9	√	√	4	6	√	7	2	3	3	2	2	2	1	2	-	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC230SD2AE	Cortex-M0	72	2.5	5.5	-40	105	49	8	64	4	8	9	√	√	4	6	√	7	2	3	3	2	2	2	1	2	-	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC230SE3AE	Cortex-M0	72	2.5	5.5	-40	105	49	8	128	Configurable	16	9	√	√	4	6	√	7	2	3	3	2	2	2	1	2	-	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC230VE3AE	Cortex-M0	72	2.5	5.5	-40	105	83	8	128	Configurable	16	9	√	√	4	8	√	8	2	3	3	3	4	2	1	2	1	√	LQFP100	14x14	√	NK-NUC240V	NLG-NUC200V

• NUC240 系列

Part No.	System							Memory				Timer				Analog	Connectivity										Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	Timer (32-bit)	PWM (16-bit)	RTC	ADC (12-bit)	ACMP	UART	LIN	ISO-7816-3	SPI	PC	FS	CAN	PS/2 Device	USB FS Device	EBI	Package Type	Package Size	Mass Production	EVB	MP Programmer	
NUC240LC2AE	Cortex-M0	72	2.5	5.5	-40	105	31	8	32	4	8	9	√	√	4	4	√	7	1	2	2	1	1	2	1	2	-	1	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC240LD2AE	Cortex-M0	72	2.5	5.5	-40	105	31	8	64	4	8	9	√	√	4	4	√	7	1	2	2	1	1	2	1	2	-	1	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC240LE3AE	Cortex-M0	72	2.5	5.5	-40	105	31	8	128	Configurable	16	9	√	√	4	4	√	7	1	2	2	1	1	2	1	2	-	1	-	LQFP48	7x7	√	NK-NUC240V	NLG-NUC200L
NUC240SC2AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	32	4	8	9	√	√	4	4	√	7	2	3	3	2	2	2	1	2	-	1	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC240SD2AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	64	4	8	9	√	√	4	4	√	7	2	3	3	2	2	2	1	2	-	1	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC240SE3AE	Cortex-M0	72	2.5	5.5	-40	105	45	8	128	Configurable	16	9	√	√	4	4	√	7	2	3	3	2	2	2	1	2	-	1	√	LQFP64	7x7	√	NK-NUC240V	NLG-NUC200S
NUC240VE3AE	Cortex-M0	72	2.5	5.5	-40	105	79	8	128	Configurable	16	9	√	√	4	8	√	8	2	3	3	3	4	2	1	2	1	1	√	LQFP100	14x14	√	NK-NUC240V	NLG-NUC200V

Nano100 系列

NuMicro® Nano 系列为超低功耗微控制器，基於 Arm® Cortex®-M0 内核，具 16 ~ 128 K 字节 Flash、4 ~ 16 K 字节 SRAM、4K 字节独立 Flash 作为在线系统编程 (In-System Programming) 用途。

Nano 系列集成 COM / SEG LCD 驱动、时鐘 (RTC)、ADC、DAC、USB 2.0 全速设备、ISO7816-3 智能卡接口和丰富外设，并支持多种接口快速唤醒。

关键特性：超低功耗与快速唤醒

应用领域：适合于使用电池供电的设备，诸如穿戴式装置、物联网节点装置、便携式医疗装置、智能家电、安全警报监控系统、行动支付智能读卡机、GPS 数据采集器、无线通讯模块 (Zigbee、LoRa ...)、电子货架标签、无线射频识别、智能三表 (热表、水表、燃气表) 等

• Nano100 系列

关键特性：超低功耗 200 μ A/MHz (运行模式)、75 μ A/MHz (Idle 模式)、2.5 μ A (RTC 模式, RAM 数据保持)、1 μ A (待机模式, RAM 数据保持)、3.5 μ s 快速唤醒

Part No.	System							Memory				Timer			Analog	Connectivity					Package		Status	Package							
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WWDI	PWM (16-bit)	Timer (32-bit)	RTC	ADC (12-bit)	DAC (12-bit)	UART	LIN	ISO-7816-3	SPI	I2C	PS	Package Type	Package Size	Mass Production	EVB	MP Programmer		
NANO100KD3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	64	Configurable	16	8	√	√	4	8	√	12	2	2	2	3	3	2	1	LQFP128	14X14	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100K
NANO100KE3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	128	Configurable	16	8	√	√	4	8	√	12	2	2	2	3	3	2	1	LQFP128	14X14	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100K
NANO100LC2BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	32	Configurable	8	8	√	√	4	6	√	7	2	2	2	3	2	1	LQFP48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100L	
NANO100LD2BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	64	Configurable	8	8	√	√	4	6	√	7	2	2	2	3	2	1	LQFP48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100L	
NANO100LD3BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	64	Configurable	16	8	√	√	4	6	√	7	2	2	2	3	2	1	LQFP48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100L	
NANO100LE3BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	128	Configurable	16	8	√	√	4	6	√	7	2	2	2	3	2	1	LQFP48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100L	
NANO100NC2BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	32	Configurable	8	8	√	√	4	6	√	7	2	2	2	3	2	1	QFN48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100N	
NANO100ND2BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	64	Configurable	8	8	√	√	4	6	√	7	2	2	2	3	2	1	QFN48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100N	
NANO100ND3BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	64	Configurable	16	8	√	√	4	6	√	7	2	2	2	3	2	1	QFN48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100N	
NANO100NE3BN	Cortex-M0	42	1.8	3.6	-40	85	38	4	128	Configurable	16	8	√	√	4	6	√	7	2	2	2	3	2	1	QFN48	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100N	
NANO100SC2BN	Cortex-M0	42	1.8	3.6	-40	85	52	4	32	Configurable	8	8	√	√	4	8	√	7	2	2	2	3	3	2	1	LQFP64	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100S
NANO100SD2BN	Cortex-M0	42	1.8	3.6	-40	85	52	4	64	Configurable	8	8	√	√	4	8	√	7	2	2	2	3	3	2	1	LQFP64	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100S
NANO100SD3BN	Cortex-M0	42	1.8	3.6	-40	85	52	4	64	Configurable	16	8	√	√	4	8	√	7	2	2	2	3	3	2	1	LQFP64	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100S
NANO100SE3BN	Cortex-M0	42	1.8	3.6	-40	85	52	4	128	Configurable	16	8	√	√	4	8	√	7	2	2	2	3	3	2	1	LQFP64	7X7	√	NT-Nano100K / NT-Nano120K / NT-Nano130K		NLG-Nano100S

• Nano102 系列

关键特性：超低功耗技术：150 $\mu\text{A}/\text{MHz}$ (运行模式)、65 $\mu\text{A}/\text{MHz}$ (Idle 模式)、1.5 μA (RTC 模式, RAM 数据保持)、0.65 μA (待机模式, RAM 数据保持)、3.5 μs 快速唤醒时间

Part No.	System							Memory					Timer				Analog		Connectivity				Package		Status	Tool			
	Core							APROM Flash (Kb)	LDROM Flash (Kb)	Data Flash (Kb)	SRAM (Kb)	PDMA (ch)	WDT	PWM (16-bit)	Timer (32-bit)	FTC	ADC (12-bit)	ACMP	Internal Voltage Reference		UART	ISO-7816-3	SPI	I2C	Package Type	Package Size	Mass Production	EVB	MP Programmer
NANO102LB1AN	Cortex-M0	32	1.8	3.6	-40	85	40	4	16	Configurable	4	4	√	√	4	4	√	7	2	√	2	2	2	2	LQFP48	7x7	√	NT-Nano102S	NLG-Nano112L
NANO102LC2AN	Cortex-M0	32	1.8	3.6	-40	85	40	4	32	Configurable	8	4	√	√	4	4	√	7	2	√	2	2	2	2	LQFP48	7x7	√	NT-Nano102S	NLG-Nano112L
NANO102SC2AN	Cortex-M0	32	1.8	3.6	-40	85	58	4	32	Configurable	8	4	√	√	4	4	√	7	2	√	2	2	2	2	LQFP64	7x7	√	NT-Nano102S	NLG-Nano112S
NANO102ZB1AN	Cortex-M0	32	1.8	3.6	-40	85	27	4	16	Configurable	4	4	√	√	4	4	√	2	2	√	2	1	2	2	QFN33	5x5	√	NT-Nano102S	NLG-Nano102Z
NANO102ZC2AN	Cortex-M0	32	1.8	3.6	-40	85	27	4	32	Configurable	8	4	√	√	4	4	√	2	2	√	2	1	2	2	QFN33	5x5	√	NT-Nano102S	NLG-Nano102Z

• Nano103 系列

关键特性：超低功耗技术：180 $\mu\text{A}/\text{MHz}$ (运行模式)、75 $\mu\text{A}/\text{MHz}$ (Idle 模式)、2 μA (RTC 模式, RAM 数据保持)

Part No.	System								Memory				Timer				Analog		Connectivity				Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA(ch)	WDT	WWDT	Timer (32-bit)	PWM (16-bit)	RTC	ADC (12-bit)	ACMP	Internal Voltage Reference	UART	ISO-7816-3	SPI	PC		Package Type	Package Size	Mass Production	EVB
NANO103LD3AE	Cortex-M0	36	1.8	3.6	-40	105	39	4	64	Configurable	16	4	√	√	4	6	√	8	1	√	2	2	4	2	LQFP48	7x7	√	NT-Nano103S	NLG-Nano103L
NANO103SD3AE	Cortex-M0	36	1.8	3.6	-40	105	53	4	64	Configurable	16	4	√	√	4	6	√	8	1	√	2	2	4	2	LQFP64	7x7	√	NT-Nano103S	NLG-Nano103S
NANO103ZD3AE	Cortex-M0	36	1.8	3.6	-40	105	26	4	64	Configurable	16	4	√	√	4	2	√	6	1	√	2	2	4	2	QFN33	5x5	√	NT-Nano103S	NLG-Nano103Z

• Nano110 系列

关键特性：集成 4x40 或 6x38 COM / SEG LCD 驱动、超低功耗技术：200 μ A/MHz (运行模式)、75 μ A/MHz (Idle 模式)、2.5 μ A (RTC 模式，RAM 数据保持)、1 μ A (待机模式，RAM 数据保持)、3.5 μ s 快速唤醒时间

Part No.	System							Memory				Timer			Analog		Connectivity					Display	Package		Status	Tool					
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	WWDT	PWM (16-bit) Timer (32-bit)	RTC	ADC (12-bit)	DAC (12-bit)	UART	ISO-7816-3	SPI	I2C	I2S	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer		
NANO110KC2BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	32	Configurable	8	8	✓	✓	4	8	✓	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	✓	NT-Nano130K	NLG-Nano100K
NANO110KD2BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	64	Configurable	8	8	✓	✓	4	8	✓	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	✓	NT-Nano130K	NLG-Nano100K
NANO110KD3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	64	Configurable	16	8	✓	✓	4	8	✓	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	✓	NT-Nano130K	NLG-Nano100K
NANO110KE3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	128	Configurable	16	8	✓	✓	4	8	✓	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	✓	NT-Nano130K	NLG-Nano100K
NANO110RC2BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	32	Configurable	8	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	10X10	✓	NT-Nano130K	NLG-Nano100R
NANO110RD2BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	64	Configurable	8	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	10X10	✓	NT-Nano130K	NLG-Nano100R
NANO110RD3BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	64	Configurable	16	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	10X10	✓	NT-Nano130K	NLG-Nano100R
NANO110RE3BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	128	Configurable	16	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	10X10	✓	NT-Nano130K	NLG-Nano100R
NANO110SC2BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	32	Configurable	8	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	✓	NT-Nano130K	NLG-Nano100S
NANO110SD2BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	64	Configurable	8	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	✓	NT-Nano130K	NLG-Nano100S
NANO110SD3BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	64	Configurable	16	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	✓	NT-Nano130K	NLG-Nano100S
NANO110SE3BN	Cortex-M0	42	1.8	3.6	-40	85	51	4	128	Configurable	16	8	✓	✓	4	7	✓	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	✓	NT-Nano130K	NLG-Nano100S

• Nano120 系列

关键特性：集成 USB 2.0 全速设备、超低功耗技术：200 μ A/MHz (运行模式)、75 μ A/MHz (Idle 模式)、2.5 μ A (RTC 模式，RAM 数据保持)、1 μ A (待机模式，RAM 数据保持)、3.5 μ s 快速唤醒时间

Part No.		System						Memory				Timer				Analog	Connectivity				Display	Package		Status	Tool					
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	WWDT	PWM (16-bit) Timer (32-bit)	RTC	ADC (12-bit)	ACMP	Internal Voltage Reference	UART	SPI	I2C	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer		
NANO112LB1AN	Cortex-M0	32	1.8	3.6	-40	85	40	4	16	Configurable	4	4	√	√	4	4	√	7	2	√	2	2	2	2	4x20/6x18	LQFP48	7x7	√	NT-Nano112V	NLG-Nano112L
NANO112LC2AN	Cortex-M0	32	1.8	3.6	-40	85	40	4	32	Configurable	8	4	√	√	4	4	√	7	2	√	2	2	2	2	4x20/6x18	LQFP48	7x7	√	NT-Nano112V	NLG-Nano112L
NANO112RB1AN	Cortex-M0	32	1.8	3.6	-40	85	58	4	16	Configurable	4	4	√	√	4	4	√	7	2	√	2	2	2	2	4x32/6x30	LQFP64	10x10	√	NT-Nano112V	NLG-Nano112R
NANO112RC2AN	Cortex-M0	32	1.8	3.6	-40	85	58	4	32	Configurable	8	4	√	√	4	4	√	7	2	√	2	2	2	2	4x32/6x30	LQFP64	10x10	√	NT-Nano112V	NLG-Nano112R
NANO112SB1AN	Cortex-M0	32	1.8	3.6	-40	85	58	4	16	Configurable	4	4	√	√	4	4	√	7	2	√	2	2	2	2	4x32/6x30	LQFP64	7x7	√	NT-Nano112V	NLG-Nano112S
NANO112SC2AN	Cortex-M0	32	1.8	3.6	-40	85	58	4	32	Configurable	8	4	√	√	4	4	√	7	2	√	2	2	2	2	4x32/6x30	LQFP64	7x7	√	NT-Nano112V	NLG-Nano112S
NANO112VC2AN	Cortex-M0	32	1.8	3.6	-40	85	80	4	32	Configurable	8	4	√	√	4	4	√	8	2	√	2	2	2	2	4x36/6x34	LQFP100	14x14	√	NT-Nano112V	NLG-Nano112V

• Nano130 系列

关键特性：集成 4x40 或 6x38 COM / SEG LCD 驱动和 USB 2.0 全速设备、低电压工作范围 1.8V 至 3.6V、工作温度为 -40° C 至 85° C、超低功耗技术：200 μ A/MHz (运行模式)、75 μ A/MHz (Idle 模式)、2.5 μ A (RTC 模式, RAM 数据保持)、1 μ A (待机模式, RAM 数据保持)、3.5 μ s 快速唤醒时间

Part No.	System							Memory				Timer				Analog		Connectivity				Display	Package		Status	Tool					
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	PDMA (ch)	SRAM (KB)	WDT	WMDT	PWM (16-bit) Timer (32-bit)	RTC	ADC (12-bit)	DAC (12-bit)	UART	LIN	ISO-7816-3	SPI	I2C	I2S	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	M/P Programmer	
NANO130KC2BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	32	Configurable	8	8	√	√	4	8	√	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	√	NT-Nano130K	NLG-Nano100K
NANO130KD2BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	64	Configurable	8	8	√	√	4	8	√	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	√	NT-Nano130K	NLG-Nano100K
NANO130KD3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	64	Configurable	16	8	√	√	4	8	√	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	√	NT-Nano130K	NLG-Nano100K
NANO130KE3BN	Cortex-M0	42	1.8	3.6	-40	85	86	4	128	Configurable	16	8	√	√	4	8	√	12	2	2	2	3	3	2	1	4x40/6x38	LQFP128	14X14	√	NT-Nano130K	NLG-Nano100K
NANO130SC2BN	Cortex-M0	42	1.8	3.6	-40	85	47	4	32	Configurable	8	8	√	√	4	7	√	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	√	NT-Nano130K	NLG-Nano100S
NANO130SD2BN	Cortex-M0	42	1.8	3.6	-40	85	47	4	64	Configurable	8	8	√	√	4	7	√	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	√	NT-Nano130K	NLG-Nano100S
NANO130SD3BN	Cortex-M0	42	1.8	3.6	-40	85	47	4	64	Configurable	16	8	√	√	4	7	√	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	√	NT-Nano130K	NLG-Nano100S
NANO130SE3BN	Cortex-M0	42	1.8	3.6	-40	85	47	4	128	Configurable	16	8	√	√	4	7	√	7	2	2	2	3	3	2	1	4x31/6x29	LQFP64	7X7	√	NT-Nano130K	NLG-Nano100S

NuVoice™ 系列

NuVoice 基于嵌入式 Flash 的 32 位 Cortex M0。N570 和 N574 系列为 MIC、语音变频和语音识别应用，提供高分辨率 ADC 和灵活的算法。

• N570H, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up

Part No.	CPU	APROM Flash	VDD(V)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Voice Recognition
								Mic.	Speaker			
N570H064	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	✓	DPWM	10-bit 5-ch	✓	-
N570HC64	Cortex®-M0 49 MHz	64 KB	1.8~5.5	6 KB	28	SPI x 2, UART	8	✓	DPWM	10-bit 5-ch	✓	✓

• N570J, 32-bit Cortex-M0 with Embedded Flash, 10-bit ADC, Touch Wake-up, Long Duration Solution

Part No.	CPU	APROM Flash	Flash Memory	VDD (V)	Duration(Sec)	SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Touch Wakeup	Package
					8KHz					Mic.	Speaker			
N570J08AL	Cortex®-M0 49 MHz	64 KB	8Mbit	2.4~5.5	1,000	6 KB	24	SPI, UART	8	✓	DPWM	10-bit 5-ch	✓	LQFP48
N570J16AL	Cortex®-M0 49 MHz	64 KB	16Mbit	2.4~5.5	2,000	6 KB	24	SPI, UART	8	✓	DPWM	10-bit 5-ch	✓	LQFP48
N570J32AL	Cortex®-M0 49 MHz	64 KB	32Mbit	2.4~5.5	4,000	6 KB	24	SPI, UART	8	✓	DPWM	10-bit 5-ch	✓	LQFP48
N570J64L	Cortex®-M0 49 MHz	64 KB	64Mbit	2.4~5.5	8,000	6 KB	24	SPI, UART	8	✓	DPWM	10-bit 5-ch	✓	LQFP48
N570J01GR	Cortex®-M0 49 MHz	64 KB	1Gbit	2.4~5.5	128,000	6 KB	24	SPI, UART	8	✓	DPWM	10-bit 5-ch	✓	LQFP64

• N572F/C, N572S, 32-bit Cortex-M0 with Embedded Flash and 12-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	VDD (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N572F072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572C072	Cortex®-M0 48 MHz	72 KB	-	2.4~5.5	-	8 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	Voice Recognition	LQFP64
N572S16A	Cortex®-M0 48 MHz	64 KB	16Mbit	2.4~5.5	2,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572S32A	Cortex®-M0 48 MHz	64 KB	32Mbit	2.4~5.5	4,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572S64A	Cortex®-M0 48 MHz	64 KB	64Mbit	2.4~5.5	8,000	8 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64

• N572H, 32-bit Cortex-M0 with Embedded Flash and 12-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	VDD (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N572H064	Cortex®-M0 48 MHz	64 KB	-	2.0~5.5	-	6 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	
N572H064S	Cortex®-M0 48 MHz	64 KB	-	2.0~5.5	-	6 KB	32	SPI x 2	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64
N572H16A	Cortex®-M0 48 MHz	64 KB	16Mbit	2.0~5.5	2,000	6 KB	26	SPI	4	✓	Class-AB (400mW)	✓	12-bit 8-ch	-	LQFP64

• N574F, 32-bit Cortex-M0 with Embedded Flash, 10 bit ADC, Cap Touch

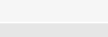
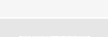
Part No.	CPU	APROM Flash	V _{DD} (V)	Duration (Sec.)		SRAM	GPIO	I/O Interface	PWM Output	Audio		ADC	Cap Touch	Voice Recognition	LDO33 for SPI Flash
				12KHz	16KHz					Mic.	Speaker				
N574F128	Cortex®-M0	128 KB	1.8~5.5	63	47	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	✓
N574C128	Cortex®-M0	128 KB	1.8~5.5	63	47	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	✓
N574F256	Cortex®-M0	256 KB	1.8~5.5	142	106	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C256	Cortex®-M0	256 KB	1.8~5.5	142	106	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574F512	Cortex®-M0	512 KB	1.8~5.5	303	228	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C512	Cortex®-M0	512 KB	1.8~5.5	303	228	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574F1K0	Cortex®-M0	1024 KB	1.8~5.5	627	470	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C1K0	Cortex®-M0	1024 KB	1.8~5.5	627	470	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-
N574F1K5	Cortex®-M0	1536 KB	1.8~5.5	951	713	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	-	-
N574C1K5	Cortex®-M0	1536 KB	1.8~5.5	951	713	12 KB	40	SPI, UART, I2C, Addr. LED	12	✓	DPWM	10-bit 5-ch	16	✓	-

• N575, 32-bit Cortex-M0 with Embedded Flash and 16-bit ADC Solution

Part No.	CPU	APROM Flash	Flash Memory	V _{DD} (V)	Duration(Sec)	SRAM	I/O	I/O Interface	PWM Output	Audio		LDO	ADC	Other	Package
					8KHz					Mic.	Speaker				
N575F145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I2C, I2S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP48
N575C145	Cortex®-M0 48 MHz	145 KB	-	2.4~5.5	-	12 KB	24	UART, I2C, I2S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC, Voice Recognition	LQFP48
N575S64A	Cortex®-M0 48 MHz	145 KB	64 Mbit	2.4~5.5	8,000	12 KB	20	UART, I2C, I2S, SPI	2	✓	DPWM (1W)	✓	16-bit, sigma delta	8-ch Touch Key, Temperature Alarm, PDMA, CRC	LQFP64

NuVoice 系列开发工具

Ordering No.	Board Name	Content	Description	Picture
NuVoice® Family				
NuVoice Demo Board, Evaluation Board				
NV-N570C064	NHS-570C064-EVB	• N570F/C064 EVB	• N570F/C064 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N570F064, N570C064	
NV-N569S8K0	NHS-N569S8K0	• N569S8K0 (MCP) EVB	• N569S (w/ 64Mbit Flash) Evaluation Board (EVB) with I/O Interface Support: N569S502/1K0/2K0/4K0/8K0	
NV-N570SC64	NHS-570SC64	• N570SC64 (MCP) EVB	• N570SC64 (w/ 64Mbit Flash) Evaluation Board with I/O Interface & Microphone for Voice Recognition Application Support: N570S08A/16A/32A/64A, N570SC08/16/32/64	
N570HC64-EVB	NHS-570H064-EVB	• N570H064 EVB	• N570H064 and N570HC64 Evaluation Board (EVB) with Push Button for Demo	
N570J32A-EVB	NHS-N570J32A	• N570J32A (MCP) EVB VDD: 2.4~5.5V	• N570J32AL (w/ 32Mbit Spi-Flash) Evaluation Board Support: N570J08AL, N570J16AL and N570J32AL	
NV-N572F065	NHS-572F065-EVB	• N572F065 EVB	• N572F065 Evaluation Board (EVB) with I/O Interface	
NV-N572C072	NHS-572C072-EVB	• N572F/C072 EVB	• N572F/C072 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N572F072, N572C072	
NV-N575C145	NHS-575C145	• N575F/C145 EVB	• N575F/C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application Support: N575F145, N575C145	
NT-N575C145	NHS-575C145	• N575C145-EVB + Daughter Board	• N575F/C145 Evaluation Board (EVB) with I/O Interface & Microphone for Voice Recognition Application with Daughter Board	

Ordering No.	Board name	Content	Description	Picture
NuVoice Dongle, Writer				
NW-NULINK2	Nu-Link2	• Nu-Link2 Dongle	• Nu-Link2 Dongle as NuVoice 1 to 1 Writer. Support to: N570F/C064, N570H064, N570HC64, N572F/C072, N572F065, N574F/C-256/512/1K0/1K5 MCP Series: N569S, N570S, N570J	
NU-NUVOICE	NU-LINK	• Nu-Link Debug Adapter	• NuVoice Series 1 to 1 Writer (Dongle) with Online/Offline In-Circuit Program (ICP), Develop, and Debug. Support: N569, N570, N572, N573, N574, N575	
NW-570F064-F	NW-570F064-F	• NW-570F064-F 1-8 Gang Writer w/ LQFP48 Adaptor and Socket	• N570F064 LQFP48 1-8 Gang Writer. Support: N570F064L, N570FW64L	
NW-570H574-F	Flash Gang Writer (Full Set)	• The 2 to 8 Gang Writer Full Set Includes NW-N570H574-M (Mother Board), 8 x LQFP48 Socket with Adaptor Board	• This 2 to 8 Gang Writer Full Set is for N570H064L (LQFP48)	
NW-570H574-M	Flash Gang Writer (Main Board)	• 2 to 8 Gang Writer Main Board (N570H/N574F)	• 2 to 8 Gang Writer Main Board for N570H064, N570J, N569J, N574F	
NW-N570J32-F	NW-N570J32-F	• NW-N570J32-M x 1 (2 to 8 Gang Writer Main Board) N570J32 adaptor board x 8 and LQFP48 Socket x 8	• N570J32AL/DL 2 to 8 Gang Writer Full Set. It supports N570J08AL/16AL/32AL, N570J08DL/16DL/32DL, and N569J1K0/2K0	
NW-N570J32-M	NW-N570J32-M	• NW-N570J32-M (2 to 8 Gang Writer Main Board)	• N570J32AL/DL 2 to 8 Gang Writer Main Board. It supports N570J08AL/16AL/32AL, N570J08DL/16DL/32DL, and N569J1K0/2K0/4K0	
NW-570S64A-F	Flash Gang Writer	• N569S/N570S 1-8 Gang Writer	• N569S/N570S (MCP) 1 to 8 Gang Writer Support: N569S502/1K0/2K0/4K0/8K0, and N570S08A/16A/32A/64A	
NW-569SAK2-F	NW-569SAK2-F	• N569SAK2/N570S130 1-8 Gang Writer	• N569SAK2/N570S130 (MCP) 1 to 8 Gang Writer • Support: N569SAK2 and N570S130 (w/ 128Mbit Spi-Flash)	
NW-572H16A-F	NW-572H16A-F	• N572H16A Gang Writer Main Board, Adaptor Board and LQFP64 Socket	• N572H16A 1 to 8 Gang Writer Full Set to Program N572H16A MCP (LQFP64, 7x7mm²) Chip	
NW-572H064-F	NW-572H064-F	• N572H064S Gang Writer Main Board, Adaptor Board and LQFP64 Socket	• N572H064S 1 to 8 Gang Writer Full Set to Program N572H064S (LQFP64, 7x7mm²) Chip	

新唐特别针对音频应用开发 32-bit 的 ARM Cortex-M0 整合型 MCU，除了有内建 Flash 及 SRAM 记忆体，并富涵多元的 Audio 及控制介面 RTC, PDMA, UART, SPI, I2C, PWM, GPIO, SAR ADC, USB, ARM Cortex-M0 内建小瓦数功放，主频可跑到 49 MHz 足以搭载小型的语音辨识引擎作为声控应用，适合高度集成的周边装置。并支援多元的周边介面如 UART, SPI, I2C, I2S, USB 支持 Full Speed 1.1 并相容于 2.0。目前内建优质的降噪及回声消除演算法，或高阶语音辨识，用以处理通话或语音辨识解决方案。

Part No.	CPU	APROM	SRAM	I/O	Timer	ADC	RTC	Audio		Development Tools	Other	Package
								MIC.	Speaker			
ISD9130	Cortex [®] -M0 49 MHz	68 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	ISD-DMK_9160	UART, I ² C, I ² S, PDMA, CRC	LQFP48 QFN33
ISD9160	Cortex [®] -M0 49 MHz	145 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	ISD-DMK_9160	UART, I ² C, I ² S, PDMA, CRC	LQFP48 QFN33
ISD9160C	Cortex [®] -M0 49 MHz	145 KB	12 KB	24	2	16-bit Sigma-Delta	✓	1	Class-D (1W)	ISD-DMK_9160	UART, I ² C, I ² S, PDMA, CRC, VR	LQFP48 QFN33
ISD91230	Cortex [®] -M0 49 MHz	64 KB	12 KB	32	2	12-bit SAR	✓	1	Class-D (0.45W)	ISD-DMK_91260	UART, I ² C, I ² S, PDMA, CRC	LQFP64 QFN33
ISD91230B	Cortex [®] -M0 49 MHz	64 KB	12 KB	32	2	12-bit SAR 24-bit BridgeSense	✓	-	Class-D (0.45W)	ISD-DMK_91260B	UART, I ² C, I ² S, PDMA, CRC	LQFP64
ISD91260	Cortex [®] -M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR	✓	1	Class-D (0.45W)	ISD-DMK_91260	UART, I ² C, I ² S, PDMA, CRC	LQFP64 QFN33
ISD91260B	Cortex [®] -M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR 24-bit BridgeSense	✓	-	Class-D (0.45W)	ISD-DMK_91260B	UART, I ² C, I ² S, PDMA, CRC	LQFP64
ISD91260C	Cortex [®] -M0 49 MHz	128 KB	12 KB	32	2	12-bit SAR	✓	1	Class-D (0.45W)	ISD-DMK_91260	UART, I ² C, I ² S, PDMA, CRC, VR	LQFP64 QFN33
ISD91530	Cortex [®] -M0 49 MHz	64 KB Flash	12KB	50	3	12-bit SAR 16-bit Sigma-Delta	-	1	Class-AB (0.02W)	ISD-DMK_91500	USB 2.0 FS	LQFP64 QFN48
ISD91535	Cortex [®] -M0 49 MHz	64 KB Flash	20KB	50	3	12-bit SAR 16-bit Sigma-Delta	-	1	Class-AB (0.02W)	ISD-DMK_91500	USB 2.0 FS	LQFP64 QFN48

ISD[®]9100 系列开发工具

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NU-NULINKISD	NU-NULINKISD	ISD-NU-LINK	ISD9100 Series ISD91200 Series ISD91500 Series ISD94100 Series	• ISD-NU-LINK	• USB Dongle • Support ICP (In-Circuit Programming)	
NM-ISD9160	NM-ISD9160	ISD-DMK_9160	ISD9100 Series	• ISD-DEMO9160 • ISD-NU-LINK • ISD-9160-Touch • ISD-9160-KB • Speaker	• Evaluation and Demo Kit for ISD9100 Series	
NT-ISD9160	NT-ISD9160	ISD-DEMO9160	ISD9100 Series	• ISD-DEMO9160	• Demo Board for ISD9100 Series • Connect to PC via ISD NU-LINK for programming and evaluation	
NP-ISD9160-T	NP-ISD9160-T	ISD-9160-TOUCH	ISD9100 Series	• ISD-9160-TOUCH	• 8-input Touch Pad for NT-ISD9160	
NP-ISD9160-K	NP-ISD9160-K	ISD-9160-KB	ISD9100 Series	• ISD-9160-KB	• 8-input Key Pad for NT-ISD9160	
NM-ISD91260	NM-ISD91260	ISD-DMK_91260	ISD91200C Series	• ISD-DEMO91260 • ISD-NU-LINK • Speaker	• Evaluation and Demo Kit for ISD91200C Series	
NM-ISD91260B	NM-ISD91260B	ISD-DMK_91260B	ISD91200B Series	• ISD-DEMO91260B • ISD-NU-LINK • Speaker	• Evaluation and Demo Kit for ISD91200B Series	
NT-ISD91260	NT-ISD91260	ISD-DEMO91260	ISD91200C Series	• ISD-DEMO91260	• Demo Board for ISD91200C Series • Connect to PC via ISD NU-LINK for programming and evaluation	
NT-ISD91260B	NT-ISD91260B	ISD-DEMO91260B	ISD91200B Series	• ISD-DEMO91260B	• Demo Board for ISD91200B Series • Connect to PC via ISD NU-LINK for programming and evaluation	
NT-91500UC	ISD91500_UC_HEADSET	ISD91500_UC_HEADSET	ISD91500 Series	• ISD91500_UC_HEADSET	• UC_HEADSET Demo Board for ISD91500 Series • Connect to PC via ISD NU-LINK for Programming and Evaluation	
NM-ISD91500	NM-ISD91500	ISD-DMK_91500	ISD91500 Series	• NT-ISD91500 • ISD-NU-LINK • Speaker	• Evaluation and Demo Kit for ISD91500 Series	
NW-ISD9160	NW-ISD9160	ISD-ES9160_Prog_F	ISD9160 LQFP	• ISD-ES9160_Prog_F	• ISD9160 LQFP Single Socket Programmer • Connect to PC via ISD NU-LINK for programming and evaluation	
NG-ISD9160	NG-ISD9160	ISD-9160_GANG_Prog_F	ISD9160 LQFP	• ISD-9160_GANG_Prog_F	• ISD9160 LQFP Standalone Gang Programmer	

新唐 NuMicro® 8051 微控制器家族



新唐科技为 8051 单片机之领先供应商，对消费性与工业应用提供各种具高性价比的产品。8 位单片机具备丰富周边来满足各种系统需求，并且得到世界领先工具制造商的工具链支持，可实现快速产品开发。

MUG51 系列为内建 Flash 的 1T 8051 内核低功耗微控制器，适用于从线圈磁场获得电源的无电池设备，例如透过电磁感应取得电源的触控笔或是 RFID 卡。

MG51 系列为内建 Flash 的 1T 8051 微控制器，适用于注重成本的应用。它支持 16/24 MHz 的 CPU 速度，具有最多 32 KB 的 Flash memory，1KB SRAM，2.4V 至 5.5V 的工作电压，和 -40° C 至 105° C 的工作温度。

MS51 系列为 1T 8051 内核且具有丰富周边与各种包装。GPIO 具有 20 mA 高电流驱动能力，更有 8 kV ESD 高抗干扰能力。

ML51/ML54/ML56 低功耗系列提供最大到 64 KB Flash 闪存与 4 KB SRAM，正常运行模式典型功耗可达 80 μ A/MHz 以及休眠模式下功耗可低于 0.8 μ A。

ML51 - 低功耗系列

ML54 - 低功耗 LCD 系列

ML56 - 低功耗 LCD+ 触摸按键系列

MUG51 低功耗系列

低功耗 MUG51 系列为内建 Flash 的 1T 8051 内核低功耗微控制器，操作频率为 7.3728 MHz，内建 16 KB Flash 内存以及 1 KB SRAM 与 4 KB LDROM，工作电压范围 1.8V 至 5.5V，工作温度范围 -40° C ~ 105° C，低功耗 MUG51 系列支持在上电后到 Flash 内存初始化完成前功耗约为 200 μ A，其低功耗特性使其很适合用于从线圈磁场获得电源的无电池设备，例如透过电磁感应取得电源的触控笔或是 RFID 卡。

低功耗 MUG51 系列特色为上电后到 Flash 内存初始化完成前功耗约为 200 μ A，很适合用在透过电磁感应取得电源的触控笔或是 RFID 卡等应用，正常运行模式于 7.3728 MHz 时功耗小于 1.3 mA，掉电模式小于 1 μ A。

低功耗 MUG51 系列提供丰富的周边接口，如 I/O 内建反向器、四组 16-bit 定时器、两组 UART、一组 ISO-7816 界面、一组 SPI、两组 I²C、6 路 PWM、两组模拟比较器、8 通道 I/O 中断、低电压复位、欠压检测等来增加产品性能以及减少外围组件与尺寸。

关键特性：低功耗 MUG51 系列特色为上电后到 Flash 内存初始化完成前功耗约为 200 μ A，正常运行模式于 7.3728 MHz 时功耗小于 1.3 mA，掉电模式小于 1 μ A

目标应用：触控笔与 RFID 卡

• MUG51 系列

Part No.	System							Memory				Timer				Analog			Connectivity			Security		Display	Package	Status	Tool						
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMa(ch)	WDT	Timer (16-bit)	PWM (10-bit)	RTC	ADC (12-bit)	ACMP	Touch Key	Internal Voltage Reference	UART	SPI	I2C	SPROM(B)	UID	UCID	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer	
MUG51TB9AE	8051	7.3728	1.8	5.5	-40	105	24	4	16	Shared with APROM	1 + 256(B)	2	v	4	6	-	-	2	-	-	2	1	1	2	128	-	-	-	QFN33	4x4	v	NK-MUG51TB	-

MG51 工业控制系列

新唐 MG51 系列以 1T 8051 处理器为内核，指令集兼容于标准 80C51 并且性能提升，系统频率达 24 MHz，内建 16 ~ 32 Kbytes Flash Memory，1 Kbytes SRAM，可配置的 1 ~ 4 Kbytes LDR0M 供在系统编程使用，以丰富周边为其特色，高达 8 路 12 位 ADC、2 组 UART、6 路 16 位 PWM，高抗干扰能力。

关键特性：可配置的数据存储区。具备高抗干扰能力 (7 kV ESD 与 4.4 kV EFT) 与强灌电流能力 (20 mA)
应用领域：智慧建筑、智慧家庭、家电、工业控制、电池管理系统等

• MG51 系列

Part No.	System						Memory				Timer		Analog	Connectivity			Security	Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDR0M Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	Timer (16-bit)	PWM (10-bit)	ADC (12-bit)	ISO-7816-3	SPI	I2C	SPROM(B)	Package Type	Package Size	Mass Production	EVB	MP Programmer	
MG51FB9AE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	v	4	6	8	2	-	1	1	128	TSSOP20	4.4x6.5	v	NT-MG51FC	NLG-MS51F
MG51FC9AE	8051	16/24	2.4	5.5	-40	105	18	4	32	Shared with APROM	2K + 256(B)	v	4	6	8	2	-	1	1	128	TSSOP20	4.4x6.5	v	NT-MG51FC	NLG-MS51F
MG51XB9AE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	v	4	6	8	2	-	1	1	128	QFN20	3x3	v	NT-MG51FC	-
MG51XC9AE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	v	4	6	8	2	-	1	1	128	QFN20	3x3	v	NT-MG51FC	-

MS51 工业控制系列

新唐 MS51 系列以 1T 8051 处理器为内核，指令集兼容于标准 80C51 并且性能提升，系统频率达 24 MHz，内建 8 ~ 32 Kbytes Flash Memory，1 ~ 2 Kbytes SRAM，可配置的 1 ~ 4 Kbytes LDROM 供在系统编程使用，以丰富周边为其特色，高达 15 路 12 位 ADC、5 组 UART、12 路 16 位 PWM，高抗干扰能力。

关键特性：可配置的数据存储区。具备高抗干扰能力 (8kV ESD 与 4kV EFT) 与强灌电流能力 (20 mA)

应用领域：智慧建筑、智慧家庭、家电、工业控制、电池管理系统等

Part No.	System							Memory				Timer		Analog	Connectivity			Security	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	PWM (16-bit) Timer (16-bit)	ADC (12-bit)	UART	ISO-7816-3	SPI	I2C	SPROM (Byte)	Package Type	Package Size	Mass Production	EVB	MP Programmer	
MS51BA9AE	8051	16/24	2.4	5.5	-40	105	8	4	8	Shared with APROM	1K + 256(B)	√	4	5	5	2	-	1	1	128	MSOP10	3x3	√	NT-MS51DA	-
MS51DA9AE	8051	16/24	2.4	5.5	-40	105	12	4	8	Shared with APROM	1K + 256(B)	√	4	5	8	2	-	1	1	128	TSSOP14	4.4x5	√	NT-MS51DA	-
MS51EB0AE	8051	16/24	2.4	5.5	-40	105	26	4	16	Shared with APROM	2K + 256 (B)	√	4	12	15	2	3	1	1	128	TSSOP28	4.4x9.7	√	NK-MS51PC	NLG-MS51E
MS51EC0AE	8051	16/24	2.4	5.5	-40	105	26	4	32	Shared with APROM	2K + 256 (B)	√	4	12	15	2	3	1	1	128	TSSOP28	4.4x9.7	√	NK-MS51PC	NLG-MS51E
MS51FB9AE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	√	4	6	8	2	-	1	1	128	TSSOP20	4.4x6.5	√	NT-MS51FB	NLG-MS51F
MS51FC0AE	8051	16/24	2.4	5.5	-40	105	18	4	32	Shared with APROM	2K + 256(B)	√	4	11	15	2	3	1	1	128	TSSOP20	4.4x6.5	√	NK-MS51PC	NLG-MS51F
MS51PC0AE	8051	16/24	2.4	5.5	-40	105	31	4	32	Shared with APROM	2K + 256(B)	√	4	12	15	2	3	1	1	128	LQFP32	7x7	√	NK-MS51PC	-
MS51TC0AE	8051	16/24	2.4	5.5	-40	105	31	4	32	Shared with APROM	2K + 256(B)	√	4	12	15	2	3	1	1	128	QFN33	4x4	√	NK-MS51PC	-
MS51XB9AE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	√	4	6	8	2	-	1	1	128	QFN20	3x3	√	NT-MS51FB	-
MS51XB9BE	8051	16/24	2.4	5.5	-40	105	18	4	16	Shared with APROM	1K + 256(B)	√	4	6	8	2	-	1	1	128	QFN20	3x3	√	NT-MS51FB	NLG-20XB
MS51XC0BE	8051	16/24	2.4	5.5	-40	105	18	4	32	Shared with APROM	2K + 256(B)	√	4	12	15	2	3	1	1	128	QFN20	3x3	√	NK-MS51PC	-

ML51 / ML54 / ML56 低功耗系列

新唐 ML51/ML54/ML56 系列是低功耗微控制器平台并以 1T 8051 处理器为内核，指令集兼容于标准 80C51 并且性能提升，系统频率达 24 MHz，内建 16 ~ 64 Kbytes Flash Memory，1 ~ 4 Kbytes SRAM，可配置的 1 ~ 4 Kbytes LDROM 供在系统编程使用，特色为内建 COM/SEG LCD 驱动器与电容式触控按键，非常适合用于小家电人机接口，1.8V 到 5.5V 宽工作电压 (ML51 32/16 KB)，5V 容忍 I/O，-40°C ~ 105°C 工作温度。

关键特性：正常运行功耗为 80 μ A/MHz，低功耗运行模式功耗为 15 μ A，低功耗闲置模式功耗为 13 μ A，休眠模式在 3.3V 时功耗为 0.8 μ A，在 10 μ S 内的快速唤醒时间、并具备高抗干扰能力 (8kV ESD，4kV EFT) 与强灌电流能力 (20 mA)。

应用领域：手持仪器、温控器、健康照护产品、人机介面、智慧家庭、家电、工业控制、工业自动化、温度 / 湿度纪录器

• ML51 低功耗系列

Part No.	System						Memory				Timer			Analog			Connectivity			Security			Display	Package		Status	Tool						
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	PWM (16-bit) Timer (16-bit)	RTC	ADC (12-bit)	ACMP	Touch Key	Internal Voltage Reference	UART	ISO-7816-3	SPI	I2C	SPROM (Byte)	UID	UCID	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer	
ML51BB9AE	8051	24	1.8	5.5	-40	105	7	4	16	Shared with APROM	1 + 256(B)	2	√	4	4	-	2	-	-	-	2	-	-	1	128	96	128	-	MSOP10	3x3	√	NT-ML51EB	-
ML51DB9AE	8051	24	1.8	5.5	-40	105	11	4	16	Shared with APROM	1 + 256(B)	2	√	4	4	-	3	-	-	-	2	1	1	2	128	96	128	-	TSSOP14	4.4x5.0	√	NT-ML51EB	-
ML51EB9AE	8051	24	1.8	5.5	-40	105	24	4	16	Shared with APROM	1 + 256(B)	2	√	4	6	-	8	-	-	-	2	1	1	2	128	96	128	-	TSSOP28	4.4x9.7	√	NT-ML51EB	NLG-28E
ML51EC0AE	8051	24	1.8	5.5	-40	105	24	4	32	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	2	2	128	96	128	-	TSSOP28	4.4x9.7	√	NK-ML51PC	NLG-28E
ML51FB9AE	8051	24	1.8	5.5	-40	105	16	4	16	Shared with APROM	1 + 256(B)	2	√	4	6	-	6	-	-	-	2	1	1	2	128	96	128	-	TSSOP20	4.4x6.5	√	NT-ML51EB	NLG-20F
ML51LD1AE	8051	24	1.8	3.6	-40	105	43	4	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	10	2	-	√	2	2	2	2	128	96	128	-	LQFP48	7x7	√	NK-ML51SD	NLG-48L
ML51OB9AE	8051	24	1.8	5.5	-40	105	16	4	16	Shared with APROM	1 + 256(B)	2	√	4	6	-	6	-	-	-	2	1	1	2	128	96	128	-	SOP20	7.6x13	√	NT-ML51EB	-
ML51PB9AE	8051	24	1.8	5.5	-40	105	28	4	16	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	1	2	128	96	128	-	LQFP32	7x7	√	NK-ML51PC	-
ML51PC0AE	8051	24	1.8	5.5	-40	105	28	4	32	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	2	2	128	96	128	-	LQFP32	7x7	√	NK-ML51PC	-
ML51SD1AE	8051	24	1.8	3.6	-40	105	56	4	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	14	2	-	√	2	2	2	2	128	96	128	-	LQFP64	7x7	√	NK-ML51SD	NLG-64S
ML51TB9AE	8051	24	1.8	5.5	-40	105	28	4	16	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	1	2	128	96	128	-	QFN33	4x4	√	NK-ML51PC	NLG-32T
ML51TC0AE	8051	24	1.8	5.5	-40	105	28	4	32	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	2	2	128	96	128	-	QFN33	4x4	√	NK-ML51PC	NLG-32T
ML51TD1AE	8051	24	1.8	3.6	-40	105	28	4	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	9	2	-	√	2	2	2	2	128	96	128	-	QFN33	4x4	√	NK-ML51SD	NLG-32T
ML51UB9AE	8051	24	1.8	5.5	-40	105	24	4	16	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	-	-	√	2	1	1	2	128	96	128	-	SOP28	7.6x18	√	NT-ML51EB	-
ML51UC0AE	8051	24	1.8	5.5	-40	105	24	4	32	Shared with APROM	2 + 256(B)	2	√	4	6	-	8	2	-	√	2	1	2	2	128	96	128	-	SOP28	7.6x18	√	NK-ML51PC	-
ML51XB9AE	8051	24	1.8	5.5	-40	105	17	4	16	Shared with APROM	1 + 256(B)	2	√	4	6	-	6	-	-	-	2	1	1	2	128	96	128	-	QFN20	3x3	√	NT-ML51EB	-

• ML54 低功耗 LCD 系列

Part No.	System								Memory				Timer				Analog		Connectivity				Security			Display	Package		Status	Tool			
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	PWM (16-bit) Timer (16-bit)	RTC	ADC (12-bit) ACMP	Internal Voltage Reference Touch Key	UART	ISO-7816-3	SPI	I2C	SPROM (Byte)	UID	UCID	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer			
ML54LD1AE	8051	24	1.8	3.6	-40	105	42	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	10	2	-	√	2	2	2	2	128	96	128	4x22/6x20/8x18	LQFP48	7x7	√	NK-ML54SD	NLG-48L
ML54MD1AE	8051	24	1.8	3.6	-40	105	38	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	10	2	-	√	2	2	2	2	128	96	128	4x21/6x19/8x17	LQFP44	10x10	√	NK-ML54SD	-
ML54SD1AE	8051	24	1.8	3.6	-40	105	55	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	14	2	-	√	2	2	2	2	128	96	128	4x32/6x30/8x28	LQFP64	7x7	√	NK-ML54SD	NLG-64S

• ML56 低功耗 LCD + 觸摸系列

Part No.	System								Memory				Timer				Analog			Connectivity				Security			Display	Package		Status	Tool		
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	PDMA (ch)	WDT	PWM (16-bit) Timer (16-bit)	RTC	ADC (12-bit)	ACMP	Internal Voltage Reference Touch Key	UART	ISO-7816-3	SPI	I2C	SPROM (Byte)	UID	UCID	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer		
ML56LD1AE	8051	24	1.8	3.6	-40	105	42	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	10	2	9	√	2	2	2	2	128	96	128	4x22/6x20/8x18	LQFP48	7x7	√	NK-ML56SD	NLG-48L
ML56MD1AE	8051	24	1.8	3.6	-40	105	38	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	10	2	6	√	2	2	2	2	128	96	128	4x21/6x19/8x17	LQFP44	10x10	√	NK-ML56SD	-
ML56SD1AE	8051	24	1.8	3.6	-40	105	55	-	64	Shared with APROM	4 + 256(B)	4	√	4	12	√	14	2	14	√	2	2	2	2	128	96	128	4x32/6x30/8x28	LQFP64	7x7	√	NK-ML56SD	NLG-64S

N76E 系列 (1T)

应用领域：工业自动化、家庭自动化、温控器、人机接口、LED 灯调控制、消费性产品等。

关键特性：提供高整合度的高精度 ADC 与电源管理单元，包括 BOD、POR 与 LVR 等、内建丰富外设 I²C、UART、SPI、ADC、PWM、内建 RC 振荡、数据 Flash 区域

Part No.	System								Memory				Timer				Analog		Connectivity			Display	Package		Status	Tool	
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	APROM Flash (KB)	LDROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	Timer (16-bit)	PWM (10-bit)	PWM (12-bit)	PWM (16-bit)	ADC (10-bit)	ADC (12-bit)	UART	SPI	I2C	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer
N76E003AQ20	8051	16	2.4	5.5	-40	105	18	4	18	Shared with APROM	768(B) + 256(B)	√	4	-	-	6	-	8	2	1	1	-	QFN20	3x3	√	NT-N76E003	-
N76E003AT20	8051	16	2.4	5.5	-40	105	18	4	18	Shared with APROM	768(B) + 256(B)	√	4	-	-	6	-	8	2	1	1	-	TSSOP20	4.4x6.5	√	NT-N76E003	NLG-MS51F
N76E003BQ20	8051	16	2.4	5.5	-40	105	18	4	18	Shared with APROM	768(B) + 256(B)	√	4	-	-	6	-	8	2	1	1	-	QFN20	3x3	√	NT-N76E003	NLG-20XB
N76E616AF44	8051	16	2.4	5.5	-40	105	42	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	-	6	8	-	2	-	1	4x32/6x30	PQFP44	10x10	√	NT-N76E616	-
N76E616AL48	8051	16	2.4	5.5	-40	105	46	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	-	6	8	-	2	-	1	4x32/6x30	LQFP48	7x7	√	NT-N76E616	-
N76E616AM44	8051	16	2.4	5.5	-40	105	42	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	-	6	8	-	2	-	1	4x32/6x30	LQFP44	10x10	√	NT-N76E616	-
N76E885AQ20	8051	25	2.4	5.5	-40	105	18	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	6	-	10	-	2	1	1	-	QFN20	4x4	√	NT-N76E885	-
N76E885AT20	8051	25	2.4	5.5	-40	105	18	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	6	-	10	-	2	1	1	-	TSSOP20	4.4x6.5	√	NT-N76E885	-
N76E885AT28	8051	25	2.4	5.5	-40	105	26	4	18	Shared with APROM	256(B) + 256(B)	√	4	-	6	-	10	-	2	1	1	-	TSSOP28	4.4x9.7	√	NT-N76E885	-

N79E 系列 (4T)

Part No.	System							Memory				Timer				Analog		Connectivity			Display	Package		Status	Tool		
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	LDROM Flash (KB)	APROM Flash (KB)	Data Flash (KB)	SRAM (KB)	WDT	Timer (16-bit)	PWM (10-bit)	PWM (12-bit)	PWM (16-bit)	ADC (10-bit)	ADC (12-bit)	UART	SPI	I2C	ComSeg LCD	Package Type	Package Size	Mass Production	EVB	MP Programmer
N79E715AS16	8051	24	2.4	5.5	-40	85	13	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP16	3.9x10	√	NT-N79E715	-
N79E715AS20	8051	24	2.4	5.5	-40	85	17	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP20	7.6x13	√	NT-N79E715	-
N79E715AS28	8051	24	2.4	5.5	-40	85	25	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP28	7.6x18	√	NT-N79E715	-
N79E715AT20	8051	24	2.4	5.5	-40	85	17	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	TSSOP20	4.4x6.5	√	NT-N79E715	-
N79E715AT28	8051	24	2.4	5.5	-40	85	25	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	TSSOP28	4.4x9.7	√	NT-N79E715	-
N79E8132AS16	8051	24	2.4	5.5	-40	85	13	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP16	3.9x10	√	NT-N79E715	-
N79E815AS20	8051	24	2.4	5.5	-40	85	17	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP20	7.6x13	√	NT-N79E715	-
N79E815AS28	8051	24	2.4	5.5	-40	85	25	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	SOP28	7.6x18	√	NT-N79E715	-
N79E815AT20	8051	24	2.4	5.5	-40	85	17	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	TSSOP20	4.4x6.5	√	NT-N79E715	-
N79E815AT28	8051	24	2.4	5.5	-40	85	25	4	16	Shared with APROM	256(B) + 256(B)	√	4	4	-	-	8	-	2	1	1	-	TSSOP28	4.4x9.7	√	NT-N79E715	-

标准型 8051 系列

新唐标准型 8051 系列、内建 22.1184 MHz 高精度振荡器、并具备高抗干扰能力 (8 kV ESD, 4 kV EFT)、4 K 字节独立 Flash 作为在线系统编程 (In System Programming) 用途。

关键特性：内建丰富外设，UART、SPI、PWM、RC 振荡、数据 Flash 区域和在线系统程序设计 (In-System Programming)

应用领域：条形码读取设备、数字电话、多计算机切换器 (KVM)、2.4G 无线键盘、工控机、显示器等

• W78 系列

关键特性：6T/12T option, Extra I/O port

Part No.	Core	Flash (KB)	SRAM (bytes)	ISP ROM (KB)	I/O	Connectivity			ADC (10-bit)	Comp	ISP	INT	PWM (8-bit)	Timer (16-bit)	Special Function	Package	Mass Production
						I2C	SPI	UART									
W78E052D	8051	8	256	2	36	-	-	1	-	-	√	4	-	3	6T/12T option, Extra I/O port	PDIP40/PLCC44/PQFP44/LQFP48/TQFP44	√
W78E054D	8051	16	256	2	36	-	-	1	-	-	√	4	-	3	6T/12T option, Extra I/O port	PDIP40/PLCC44/PQFP44/LQFP48/TQFP44	√
W78E058D	8051	32	256 + 256	4	36	-	-	1	-	-	√	4	-	3	6T/12T option, Extra I/O port	PDIP40/PLCC44/PQFP44/LQFP48	√
W78E516D	8051	64	256 + 256	4	36	-	-	1	-	-	√	4	-	3	6T/12T option, Extra I/O port	PDIP40/PLCC44/PQFP44/LQFP48	√

NUC970/980 系列

新唐 NUC970/980 工业网络系列提供堆栈 64 MB ~ 128 MB DDR 内存于 LQFP 封装, 可缩小 PCB 尺寸与减少 EMI 问题。提供了丰富的外设, 包括 11 组 UART、双以太网与双 SDIO / eMMC 接口、NAND 闪存接口、LCD 控制器、CAN 2.0B 接口和高速 USB 2.0 主机 / 设备控制器、可实现高度灵活性, 集成了加密引擎, 包含 AES、ECC、RSA 和 SHA 功能提供硬件加速。

开机来源: SPI NOR、SPI NAND、NAND、SD、eMMC、USB

应用领域: 工业自动化、人机界面、工业物联网网关、网路打印机、以太网转换器、智能家居匝道器、电表集中器等

NUC970/980 Series	EBI	LCD	Crypto Engine	Linux
NUC980DF	√	-	AES/ECC/RSA/SHA	√
NUC980DK	√	-	AES/ECC/RSA/SHA	√
NUC980DR	-	-	AES/ECC/RSA/SHA	√
NUC972DF	√	√	AES/ECC/SHA/DES/3DES	√
NUC975DK	-	-	AES/ECC/SHA/DES/3DES	√
NUC976DK	-	√	AES/ECC/SHA/DES/3DES	√
NUC977DK	-	√	AES/ECC/SHA/DES/3DES	√

关键特性: MCP 工业规格 DDR 于 LQFP 封装、双高速 USB 主机、双 10/100 兆以太网口

NUC970/980 系列

Part No.	System							Memory		Timer	Analog	Connectivity														Security	Crypto	Display	Package		Status	Tool
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	SRAM (KB)	DDR (MB)	PDMA	PWM (16-bit)	ADC (12-bit)	ISO-7816-3	UART	QSPI	SPI	I2C	CAN	SDHC	USB FS Host	USB HS Device/Host	USB HS Host	EMAC	EBI	OTP	Crypto	Camera Interface	TFT-LCD Interface	Package Type	Package Size	Mass Production	EVB
NUC980DF63YC	ARM926EJ-S	300	2.97	3.63	-40	85	104	16	64	6	8	8	10	2	1	2	4	4	2	HL*6	1	1	2	√	-	√	2	-	LQFP 216	24x24	√	NK-NUC980
NUC980DF71YC	ARM926EJ-S	300	2.97	3.63	-40	85	104	16	128	6	8	8	10	2	1	2	4	4	2	HL*6	1	1	2	√	-	√	2	-	LQFP 216	24x24	√	-
NUC980DK63YC	ARM926EJ-S	300	2.97	3.63	-40	85	92	16	64	6	8	8	10	2	1	2	4	4	2	HL*6	1	1	2	√	-	√	2	-	LQFP 128	14x14	√	NK-980IOT
NUC980DK71YC	ARM926EJ-S	300	2.97	3.63	-40	85	92	16	128	6	8	8	10	2	1	2	4	4	2	HL*6	1	1	2	√	-	√	2	-	LQFP 128	14x14	√	NK-980IOTG2
NUC980DR63YC	ARM926EJ-S	300	2.97	3.63	-40	85	40	16	64	6	5	2	8	2	-	2	2	2	1	HL*6	1	1	1	-	-	√	1	-	LQFP 64-EP	10x10	√	NK-RTU980
NUC972DF63YC	ARM926EJ-S	300	2.97	3.63	-40	85	146	56	64	-	4	8	11	2	-	2	2	2	2	-	1	1	2	√	√	√	1	24bit	LQFP 216	24x24	√	ND-NUC972
NUC972DF71YC	ARM926EJ-S	300	2.97	3.63	-40	85	146	56	128	-	4	8	11	2	-	2	2	2	2	-	1	1	2	√	√	√	1	24bit	LQFP 216	24x24	√	-
NUC975DK63YC	ARM926EJ-S	300	2.97	3.63	-40	85	87	56	64	-	4	4	10	2	-	2	2	1	2	-	1	1	1	√	√	√	1	-	LQFP 128	14x14	√	ND-NUC972
NUC976DK63YC	ARM926EJ-S	300	2.97	3.63	-40	85	80	56	64	-	4	4	6	2	-	2	2	1	2	-	1	1	1	-	√	√	1	16bit	LQFP 128	14x14	√	ND-NUC972
NUC977DK63YC	ARM926EJ-S	300	2.97	3.63	-40	85	87	56	64	-	4	-	8	2	-	2	2	1	2	-	1	1	1	-	√	√	1	16bit	LQFP 128	14x14	√	ND-NUC972

N9H 系列



新唐人机界面 N9H 系列基于 ARM926EJ-S 内核。此系列包含 N9H20、N9H26 和 N9H30，其工作主频分别为 200 MHz、240 MHz 和 300 MHz。它采用堆栈式 SDRAM 的多芯片封装（MCP），容量范围为 2 MB 至 128 MB，可显着降低 PCB 大小和电磁干扰（EMI），减少系统设计工作并缩短产品设计周期。

N9H 系列内建人机界面所需硬件，包含 24-bit TFT RGB 接口，最高分辨率支持 1024x768、2D 图形硬体加速器、JPEG/ H.264 影像编解码器、并能支持电容及电阻式触碰界面。此外，新唐科技提供工业领先的 emWin 嵌入式互动图形界面库，让用户能够免费使用于产品，轻松的创建流畅、专业、高质量的人机界面产品。

开机来源：SPI NOR、NAND、SD、eMMC

应用领域：工业自动化设备、智能楼宇、智能家电、医疗产品、新能源应用及消费性产品等人机接口

系列	工作主频 (MHz)	LCD	影像编解码	音讯编解码	以太网	CAN	工作温度
N9H20	200	16 / 24bit	JPEG	√	-	-	-20°C to 85°C
N9H26	240	24 bit	JPEG/ H.264	√	√	-	-20°C to 85°C
N9H30	300	16 / 24bit	JPEG	-	√	√	-40°C to 85°C

关键特性：整合 SDRAM 达 128 MB 于 LQFP 封装、LCD 支持最高 24 位 1024x768、免费使用 emWin 库

Part No.	System							Memory		Timer		Analog		Connectivity										Display			Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	SRAM (Kb)	DDR (Mb)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	ADC (10-bit)	ADC (12-bit)	ISO-7816-3 UART	SPI	PC	CAN	SDHC	USB FS Host	USB HS Device	USB HS Host	USB HS Device/ Host	EMAC	EBI	Camera Interface	TFT-LCD Interface	2D Graphics Engine	Video Codec	Package Type	Package Size	Mass Production	EVB	
N9H20K11N	ARM926EJ-S	200	2.97	3.63	-20	85	70	8	2	4	2	4	3	-	2	-	2	1	-	3	1	1	-	-	-	-	24bit	✓	JPEG	LQFP128	14x14	✓	-	
N9H20K31N	ARM926EJ-S	200	2.97	3.63	-20	85	70	8	8	4	2	4	3	-	2	-	2	1	-	3	1	1	-	-	-	-	24bit	✓	JPEG	LQFP128	14x14	✓	-	
N9H20K51N	ARM926EJ-S	200	2.97	3.63	-20	85	70	8	32	4	2	4	3	-	2	-	2	1	-	3	1	1	-	-	-	-	24bit	✓	JPEG	LQFP128	14x14	✓	NK-N9H20	
N9H20R11N	ARM926EJ-S	200	2.97	3.63	-20	85	44	8	2	4	2	4	-	-	2	-	1	1	-	1	1	1	-	-	-	-	16bit	✓	JPEG	TQFP64-EP	10x10	✓	-	
N9H26K63N	ARM926EJ-S	240	2.97	3.63	-20	85	80	8	64	4	4	4	-	7	2	-	2	1	-	3	1	1	1	-	1	-	24bit	✓	JPEG/H.264	LQFP128	14x14	✓	NK-N9H26	
N9H30F63IEC	ARM926EJ-S	300	2.97	3.63	-40	85	146	56	64	-	5	4	-	8	11	2	2	2	2	2	-	-	1	1	2	✓	1	24bit	✓	JPEG	LQFP216	24x24	✓	NK-N9H30
N9H30F71IEC	ARM926EJ-S	300	2.97	3.63	-40	85	146	56	128	-	5	4	-	8	11	2	2	2	2	2	-	-	1	1	2	✓	1	24bit	✓	JPEG	LQFP216	24x24	✓	-
N9H30K63IEC	ARM926EJ-S	300	2.97	3.63	-40	85	86	56	64	-	5	4	-	5	9	2	2	2	1	2	-	-	1	1	1	-	1	16bit	✓	JPEG	LQFP128	14x14	✓	-

N329 系列



新唐 N329 影像系列提供堆栈 2 MB~64 MB DDR 内存于 LQFP 封装，可缩小 PCB 尺寸与减少 EMI 问题。提供 JPEG 与 H.264 影像边译码硬件引擎，且有丰富的外设，包括 UART、以太网、SDIO / eMMC 接口、NAND 闪存接口、LCD 控制器、内建音讯编解码器和高速 USB 2.0 主机 / 设备控制器，可应用于消费类影音产品。

开机来源：SPI NOR、SPI NAND、NAND、SD、eMMC

系列	工作主频 (MHz)	影像编解码	Linux
N3290xR	200	JPEG	√
N3290xU	200	JPEG	√
N3290xK	200	JPEG	√
N3292xU	240	JPEG/ H.264	√

关键特性：2D 图形硬件加速器、JPEG/ H.264 影像编解码器、MCP SDRAM 高达 64 MB 于 LQFP 封装、支持 LCD 接口、内建音讯编解码器

Part No.	System						Memory		Timer		Analog	Connectivity						Display			Package		Status	Tool				
	Core	Operating Frequency (MHz)	Operating Voltage (min) (V)	Operating Voltage (max) (V)	Operating Temperature (min) (°C)	Operating Temperature (max) (°C)	GPIO	SRAM (KB)	DDR (MB)	PDMA (ch)	Timer (32-bit)	PWM (16-bit)	ADC (10-bit)	UART	SPI	I2C	SDHC	USB FS Host	USB HS Host	EMAC	Camera Interface	TFT-LCD Interface	2D Graphics Engine	Video Codec	Package Type	Package Size	Mass Production	EVB
N32903K5DN	ARM926EJ-S	200	2.97	3.63	-20	85	70	8	8	4	2	4	3	2	2	1	3	1	-	-	1	24bit	√	JPEG	LQFP128	14x14	√	ND-N32905
N32905K5DN	ARM926EJ-S	200	2.97	3.63	-20	85	70	8	32	4	2	4	3	2	2	1	3	1	-	-	1	24bit	√	JPEG	LQFP128	14x14	√	ND-N32905
N32901R1DN	ARM926EJ-S	200	2.97	3.63	-20	85	34	8	2	4	2	2	1	2	1	-	2	1	-	-	1	-	√	JPEG	LQFP64	10x10	√	ND-N32905
N32903R5DN	ARM926EJ-S	200	2.97	3.63	-20	85	34	8	8	4	2	2	1	2	1	-	2	1	-	-	1	-	√	JPEG	TQFP64-EP	10x10	√	ND-N32905
N32905R3DN	ARM926EJ-S	200	2.97	3.63	-20	85	34	8	32	4	2	2	1	2	1	-	2	1	-	-	1	-	√	JPEG	TQFP64-EP	10x10	√	ND-N32905
N32901U1DN	ARM926EJ-S	200	2.97	3.63	-20	85	64	8	2	4	2	4	2	2	1	1	3	1	-	-	1	18bit	√	JPEG	LQFP128	14x14	√	ND-N32905
N32903U5DN	ARM926EJ-S	200	2.97	3.63	-20	85	64	8	8	4	2	4	2	2	1	1	3	1	-	-	1	18bit	√	JPEG	LQFP128	14x14	√	ND-N32905
N32905U3DN	ARM926EJ-S	200	2.97	3.63	-20	85	64	8	32	4	2	4	2	2	1	1	3	1	-	-	1	18bit	√	JPEG	LQFP128	14x14	√	ND-N32905
N32926U6DN	ARM926EJ-S	240	2.97	3.63	-20	85	80	8	64	4	4	4	7	2	2	1	3	1	1	1	2	24bit	√	JPEG/H.264	LQFP128	14x14	√	ND-N32926

Smart Home

Smart Toy

PowerSpeech® 系列
NuSpeech 系列
BandDirector® 系列
ViewTalk® 系列
Peripheral 系列

NSP

NSP 系列

Audio Converters

Audio CODEC 系列 - Mono CODEC
Audio CODEC 系列 - Stereo CODEC
Audio CODEC 系列 - ULP (Ultra Low Power) CODEC
Audio ADC 系列
Audio DAC 系列
Precision ADC 系列

Audio Amplifiers

2Vrms Line Driver 系列
Class-AB 系列
Class-D 系列
Smart Amp 系列

Audio Enhancement

ISD ChipCorder®

数字式 ChipCorder® 系列
模拟式 ChipCorder® 系列

Smart Toy & NSP 开发工具

Audio 开发工具

Smart Toy

Smart Toy 系列包含 PowerSpeech、BandDirector、ViewTalk、Peripheral 和 NuVoice 系列，具有 4 位、8 位或 32 位 uC 和 / 或 嵌入式 Flash 来满足各种应用。

PowerSpeech，N589 系列具有嵌入式闪存，可实现长达 2000 sec. 的语音时间。它配备 8 位 uC、ADC、IR 唤醒、可寻址 LED、电容式触摸、SPI 和 ICE

BandDirector，N566 系列提供 Mask ROM 和嵌入式 OTP，具有 4 通道至 8 通道高质量 MIDI 解决方案。

ViewTalk N539T 系列支持高达 2K 点黑白或灰度 LCD 驱动器和高品质 8 通道 MIDI 解决方案。

Peripheral 系列包含各种适用于语音 IC 的外围设备，如 I/O 扩展器、PWM 信号 PA、MFID 阅读器和标签、Cap Touch 等。

Smart Toy

PowerSpeech® 系列

• W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A011	300	9	7	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A016	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A021	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A031	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A041	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A052	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A062	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584A017	460	15	11	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A022	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A032	1020	34	25	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A042	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A051	1580	53	40	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A061	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A071	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A081	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584A025	620	20	15	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A035	1020	35	26	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A045	1260	42	32	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W584A 4-bit μ C Base, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V_{DD} (V)	CH	F_{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584A065	1900	64	48	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A075	2220	75	56	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A085	2540	86	64	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A100	3180	108	81	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A120	3820	129	97	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A151	4460	151	113	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A171	5100	173	130	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A191	5740	195	146	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A300	9100	310	232	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584A340	10220	348	261	2.2~5.5	1 + DTM	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W584B 4-bit μ C Base, 1-ch Voice Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V_{DD} (V)	CH	F_{sys} (MHz)	OSC	Audio		RAM (N)	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC			
W584B010	300	9	7	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B015	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B020	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B030	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B040	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B052	1580	53	40	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B062	1900	64	48	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	8 I/O	8-pin
W584B016	460	15	11	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B021	620	20	15	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B031	1020	34	25	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B041	1260	42	32	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B070	2220	75	56	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B080	2540	86	64	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	12 I/O	8-pin
W584B100	3180	108	81	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B120	3820	129	97	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B150	4460	151	113	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B170	5100	173	130	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin
W584B190	5740	195	146	2.2~5.5	1	4,8	Ring	9-bit	10-bit	128	16 I/O	8-pin

• W588L 8-bit μ C Base, 2 Batteries, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588L020	94	23	18	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L030	126	32	24	1.8~3.6	1	4, 6	Ring	12-bit	-	96	8 I/O
W588L035	170	44	33	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L040	192	50	37	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L050	224	58	43	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L060	254	66	49	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L070	330	86	65	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L080	382	100	75	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O
W588L100	448	118	88	1.8~3.6	2	4, 6	Ring	12-bit	-	128	16 I/O

• W588C 8-bit μ C Base, 2-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	GPIO
		(6 KHz)	(8 KHz)					PWM	DAC		
W588C003	20	5	4	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C006	30	8	6	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C009	50	14	11	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C012	62	18	14	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C015	78	23	17	2.2~5.5	2	4~8	Ring	12-bit	-	96	8 I/O
W588C020	98	29	22	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C025	114	35	26	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
W588C030	126	38	29	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	12 I/O
*W588C036	170	52	39	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C041	192	59	44	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C046	205	63	48	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C051	224	69	52	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C056	240	74	56	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C061	254	79	59	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C071	330	103	77	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C081	382	119	90	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C101	448	140	105	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
*W588C121	510	160	120	2.2~5.5	2	4~8	Ring	12-bit	13-bit	128	16 I/O
W588C150	640	201	151	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C170	768	242	181	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C210	896	282	212	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C260	1022	322	242	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O
W588C300	1180	372	279	2.2~5.5	2	4~8	Ring	12-bit	13-bit	192	16 I/O

*DAC w/o Noise Shaping

• W588D 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Sub-Clock 32KHz	Audio		RAM (Bytes)	GPIO	SIM SPI
		(6 KHz)	(8 KHz)						PWM	DAC			
W588D003	20	5	4	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	✓
W588D006	30	8	6	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	192	16 I/O	✓
W588D009	50	14	11	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D012	62	18	14	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D015	78	23	17	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D020	98	29	22	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D025	114	35	26	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D030	126	38	29	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D035	170	52	39	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D040	192	59	44	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D045	205	63	48	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D050	224	69	52	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D055	240	74	56	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D060	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588DF060 (MTP)	254	79	59	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	16 I/O	✓
W588D070	330	103	77	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D080	382	119	90	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D100	448	140	105	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D120	510	160	120	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	256	24 I/O	✓
W588D150	640	201	151	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D170	768	242	181	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D210	896	282	212	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D260	1022	322	242	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	384	24 I/O	✓
W588D300	1180	372	279	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓
W588D350	1348	425	319	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓
W588D400	1534	484	363	2.2~5.5	3	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	8I, 24 I/O	✓

• N584L 4-bit μ C Base, 1~2 Battery, 1-ch Voice + Dual Tone Melody Synthesizer

Part No.	ROM (Kbits)	Duration (Sec.) @ 5-bit MDM		V _{DD} (V)	Booster Output (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (N)	GPIO
		(6 KHz)	(8 KHz)						PWM	DAC		
N584L020	620	20	15	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L030	1020	34	25	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L040	1260	42	32	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	8 I/O
N584L080	2540	86	64	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L120	3820	129	97	1.0~1.8	3	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L031	1020	34	25	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L041	1260	42	32	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L061	1900	64	48	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L081	2540	86	64	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O
N584L121	3820	129	97	1.0~3.6	4	1 + DTM	4~8	Ring	9-bit	-	128	12 I/O

• N588L 1.0~3.6V, 8-bit μ C Base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC					
N588L040	126	40	30	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L080	254	80	60	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L120	416	132	99	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L160	528	167	125	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L200	638	202	152	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L240	768	243	182	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L280	896	284	213	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N588L330	1022	324	243	1.0~3.6V	2	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair

• N588LP (OTP), 1.0~3.6V, 8-bit μ C base, 2-ch Voice Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC					
N588LP122	416	132	99	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin
N588LP162	528	167	125	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin
N588LP202	638	202	152	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin
N588LP242	768	243	182	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin
N588LP282	896	284	213	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin
N588LP332	1022	324	243	1.0~3.6V	2	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	√	16 I/O	2-pin

• N584H High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (4 MHz)	CH	F _{sys} (MHz)	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)					PWM	DAC					
N584H009	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	4 I/O	4-pin
N584H019	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	4 I/O	4-pin
N584H029	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	4 I/O	4-pin
N584H039	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	4 I/O	4-pin
N584H010	300	12	9	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H020	620	24	18	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H030	940	37	28	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H040	1260	49	37	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H060	1740	68	51	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H070	1900	74	56	1.8~5.5V	1	4, 8	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584H120	3340	131	98	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584H160	4070	159	119	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584H170	4460	175	131	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584H210	5740	225	169	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584H260	7020	275	206	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584H300	7980	312	234	1.8~5.5V	1 + DTM	4, 8	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin

• N584P (OTP), High Sound Quality 1-ch Voice

Part No.	ROM (Kbits)	Duration (Sec.) @ 4-bit NM4		V _{DD} (8 MHz)	CH	OSC	Audio		Cap Sensor	RAM (N)	LVD	GPIO	High Sink
		(6 KHz)	(8 KHz)				PWM	DAC					
N584P040	1260	49	37	1.8~5.5V	1	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584P070	1900	74	56	1.8~5.5V	1	TRIM	9-bit	-	-	96	✓	8 I/O	8-pin
N584P120	3340	131	98	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584P170	4460	175	131	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584P210	5740	225	169	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584P260	7020	275	206	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin
N584P300	7980	312	234	1.8~5.5V	1 + DTM	TRIM	9-bit	-	8-pin	224	✓	16 I/O	8-pin

• N588J 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	Fsys (MHz)	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)				PWM	DAC				
N588J010	30	10	7	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J040	126	40	30	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J060	206	65	49	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J080	254	80	60	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J120	414	131	98	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J170	510	162	121	2.2~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588J200	704	223	167	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J250	830	263	197	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J340	1020	324	243	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J480	1534	486	364	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588J650	2044	648	486	2.2~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair

• N588JP (OTP), 8-bit μ C Base, 1-ch Voice Synthesizer w/ PWM Direct Driver

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD}	CH	Fsys (MHz)	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)				PWM	DAC				
N588JP062	206	65	49	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP082	254	80	60	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP122	414	131	98	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP172	510	162	121	2.0~5.5V	1	4,6,8	12-bit	-	128	✓	16 I/O	3-pair
N588JP202	704	223	167	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588JP252	830	263	197	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair
N588JP342	1020	324	243	2.0~5.5V	1	4,6,8	12-bit	-	192	✓	24 I/O	3-pair

• N588H 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC				
N588H061	206	65	49	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H081	254	80	60	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H120	414	131	98	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H170	510	162	121	2.2~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588H200	704	223	167	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H250	830	263	197	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H340	1022	324	243	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H480	1534	486	364	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588H650	2044	648	486	2.2~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair

• N588HP (OTP), 8-bit μ C Base, 3-ch Voice + Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)					PWM	DAC				
N588HP062	206	65	49	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP082	254	80	60	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP122	414	131	98	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP172	510	162	121	2.0~5.5	3	4,6,8	TRIM	12-bit	-	128	✓	16 I/O	3-pair
N588HP202	704	223	167	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588HP252	830	263	197	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair
N588HP342	1022	324	243	2.0~5.5	3	4,6,8	TRIM	12-bit	-	192	✓	24 I/O	3-pair

NuSpeech Series

• N589A, 8-bit μ C Base, 2-ch Voice or 8-ch MIDI, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Speech/ MIDI CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589A150	85	64	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A200	126	94	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A280	166	125	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589A400	247	185	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A600	409	307	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A900	571	428	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A1K4	895	671	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589A1K9	1218	914	2.0~5.5	1.9	2/8	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589B, 8-bit μ C Base, 2-ch Voice, w/ SPIO, SPIM, ADC, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589B120	83	62	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B170	103	77	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	22 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B200	144	108	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B250	184	138	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B340	225	168	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	28 I/O	SPIO, SPIM	6 pin	6 pin	Yes	Yes	Yes
N589B480	305	229	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B650	467	350	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B960	629	472	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B125	83	62	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B175	103	77	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B205	144	108	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B255	184	138	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B345	225	168	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, SPIM	9 pin	8 pin	Yes	Yes	Yes
N589B485	305	229	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B655	467	350	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B965	629	472	2.0~5.5	1.9	2	4ch, 6bit	13-bit	512	32 I/O	SPIO, UART, Addr. LED	16 pin	12 pin	Yes	Yes	Yes
N589B1K5	953	714	2.0~5.5	1.9	2	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589B2K0	1276	957	2.0~5.5	1.9	2	4ch, 6bit	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589C, 8-bit μ C Base, 2-ch Voice, with SPIO, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Voice CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589C080	63	47	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C120	83	62	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C170	103	77	2.0~5.5	1.9	2	NO	13-bit	512	16 I/O	NO	3 pin	6 pin	Yes	Yes	Yes
N589C200	144	108	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C250	184	138	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C340	225	168	2.0~5.5	1.9	2	NO	13-bit	512	22 I/O	SPIO	6 pin	6 pin	Yes	Yes	Yes
N589C480	305	229	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C650	467	350	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C960	629	472	2.0~5.5	1.9	2	NO	13-bit	512	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C1K5	953	714	2.0~5.5	1.9	2	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589C2K0	1276	957	2.0~5.5	1.9	2	NO	13-bit	1K	32 I/O	SPIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589D, 8-bit μ C Base, 1-ch Voice, with SPIIO, IR Wake-up

Part No.	Duration (Sec)		V _{DD} (V)	LVR (V)	Speech CH	ADC	Audio	RAM (Bytes)	GPIO	Interface	PWM Output	Touch I/O	LVD	IR Wake up	LRC
	12KHz	16KHz					PWM								
N589D081	63	47	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D121	83	62	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D171	103	77	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D201	144	108	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D251	184	138	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D341	225	168	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D481	305	229	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	3 pin	8 pin	Yes	Yes	Yes
N589D085	63	47	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	9 pin	8 pin	Yes	Yes	Yes
N589D125	83	62	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	9 pin	8 pin	Yes	Yes	Yes
N589D175	103	77	2.0~5.5	1.9	1	NO	13-bit	384	16 I/O	SPIIO	9 pin	8 pin	Yes	Yes	Yes
N589D205	144	108	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	12 pin	8 pin	Yes	Yes	Yes
N589D255	184	138	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	12 pin	8 pin	Yes	Yes	Yes
N589D345	225	168	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	12 pin	8 pin	Yes	Yes	Yes
N589D485	305	229	2.0~5.5	1.9	1	NO	13-bit	384	25 I/O	SPIIO	12 pin	8 pin	Yes	Yes	Yes
N589D650	467	350	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589D960	629	472	2.0~5.5	1.9	1	NO	13-bit	512	32 I/O	SPIIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589D1K5	953	714	2.0~5.5	1.9	1	NO	13-bit	1K	32 I/O	SPIIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes
N589D2K0	1276	957	2.0~5.5	1.9	1	NO	13-bit	1K	32 I/O	SPIIO, UART, Addr. LED	6 pin	12 pin	Yes	Yes	Yes

• N589E, 8-bit μ C Base, 1-ch Voice Synthesizer

Part No.	Flash (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	Voice CH	Audio	RAM (Bytes)	GPIO	PWM Output	Cap Touch	LVD	IR Carrier	LVR (V)
		(8 KHz)	(12 KHz)			PWM							
N589E041	128	30	20	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9
N589E061	192	45	30	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9
N589E081	256	60	40	2.0~5.5	1	13-bit	384	8 I/O	3 pin	4 pin	Yes	Yes	1.9

• N589L (Flash), 1.0~3.6V, 8-bit μ C Base, 1-ch Voice Synthesizer with IR Wake up and Cap Touch

Part No.	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	LVR (V)	Voice CH	Booster Output VP (V)	Audio	RAM (Byte)	GPIO	LRC	PWM Output	Touch I/O	LVD	IR wake up
	12 KHz	16 KHz					PWM							
N589L120	83	62	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L170	103	77	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L200	144	108	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L250	184	138	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes
N589L340	225	168	1.0~3.6	2.2	1	2.4, 3.0, 3.3, 3.6, 4.2	13-bit	384	16 I/O	10 KHz	3 pin	4 pin	Yes	Yes

BandDirector® Series

• W567C 8-bit μ C Base, 16-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		Fsys (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI	PAN Stereo
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
W567C070	336	99	74	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C080	416	124	93	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C100	464	139	104	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C120	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C151	640	193	145	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C171	768	233	174	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C210	896	272	204	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C260	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C300	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C340	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C380	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-
W567C126	508	152	114	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C266	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C306	1232	376	282	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C346	1376	421	316	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567C386	1532	469	352	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	√
W567CP260 (OTP)	1020	311	233	2	16	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√	-

• N567G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567G030	126	34	26	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567G041	158	44	33	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567G080	286	84	63	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
N567G121	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G161	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G201	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567G240	768	233	174	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567G280	896	272	204	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567G330	1022	311	233	2.2~5.5	4	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√

• N567K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		VDD (V)	CH	Fsys (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC					
N567K030	126	34	26	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
N567K041	158	44	33	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	24 I/O	-	√
N567K080	286	84	63	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	√
N567K081	254	80	60	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	√	24 I/O	-	√
N567K121	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K161	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K201	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	13-bit	384	-	24 I/O	-	-
N567K240	768	233	174	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√
N567K280	896	272	204	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√
N567K330	1022	311	233	2.2~5.5	6	4,6,8	TRIM/X'tal	12-bit	13-bit	384	-	8I, 24 I/O	3-pair	√

• N567H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _s (MHz)	OSC	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)					PWM	DAC				
N567H030	126	34	26	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567H041	158	44	33	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	24 I/O	-	√
N567H080	286	84	63	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	√
N567H121	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H161	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H201	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	13-bit	384	24 I/O	-	-
N567H240	768	233	174	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567H280	896	272	204	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567H330	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√
N567HP330 (OTP)	1022	311	233	2.2~5.5	8	4,6,8	TRIM/X'tal	12-bit	13-bit	384	8I, 24 I/O	3-pair	√

• N567D 8-bit μ C Base, 14-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		F _s (MHz)	OSC	Sub-Clock 32 KHz	Audio		RAM (Bytes)	GPIO	PWM Output	SIM SPI
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC				
N567D070	224	71	53	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D100	336	106	80	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D120	416	132	99	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D140	464	147	110	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D160	508	161	121	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D200	640	203	152	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D240	768	243	183	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D280	896	284	213	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D320	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D380	1232	390	293	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D420	1376	436	327	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567D470	1532	485	364	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√
N567DP320 (OTP)	1020	323	242	2	14	4~8	Ring/X'tal	X'tal	12-bit	13-bit	512	24 I/O	3-pin	√

• N567L 1.0~3.6V, 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD}	F _s (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	GPIO	PWM Output
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC					
N567L080	254	80	60	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L120	416	132	99	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L160	528	167	125	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L200	638	202	152	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L240	768	243	182	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L280	896	284	213	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567L330	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair
N567LP330 (OTP)	1022	324	243	2	8	1.0~3.6V	4,6,8	TRIM/X'tal	12-bit	-	3.3, 4.2	384	√	16 I/O	3-pair

• N566G 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _s (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566G120	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√
N566G160	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√
N566G200	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√
N566G240	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√
N566G280	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√
N566G320	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	√	24 I/O	2-pin	√

• N566GP (OTP), 8-bit μ C Base, 4-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC					
N566GP120	416	124	93	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP160	528	158	119	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP200	638	192	144	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP240	768	233	174	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP280	896	272	204	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-
N566GP320	1022	311	233	2.2~5.5	4	4,6,8	TRIM	12-bit	-	384	✓	24 I/O	2-pin	-

• N566K 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566K080	254	74	55	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	✓
N566K120	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K160	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K200	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K240	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K280	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566K320	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓

• N566KP (OTP), 8-bit μ C Base, 6-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566KP081	254	74	55	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	-
N566KP120	416	124	93	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP160	528	158	119	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP200	638	192	144	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP240	768	233	174	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP280	896	272	204	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566KP320	1022	311	233	2.2~5.5	6	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-

• N566H 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566H080	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	✓
N566H120	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H160	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H200	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H240	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H280	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓
N566H320	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	✓

• N566HP (OTP), 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer, w/ LVD

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		V _{DD} (V)	CH	F _{sys} (MHz)	OSC	Audio		RAM (Bytes)	LVD	SIM	GPIO	PWM Output	Constant Current
		(6 KHz)	(8 KHz)					PWM	DAC						
N566HP081	254	74	55	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	✓	24 I/O	2-pin	-
N566HP120	416	124	93	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP160	528	158	119	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP200	638	192	144	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP240	768	233	174	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP280	896	272	204	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-
N566HP321	1022	311	233	2.2~5.5	8	4,6,8	TRIM	12-bit	-	384	✓	-	24 I/O	2-pin	-

• N566LP (OTP), 1.0~3.6V, 8-bit μ C Base, 8-ch Voice/Melody Synthesizer

Part No.	ROM (Kbytes)	Duration (Sec.) @ 4-bit NM4		Channel		V _{DD}	F _{sys} (MHz)	OSC	Audio		V _p (V)	RAM (Bytes)	LVD	PWM Output
		(6 KHz)	(8 KHz)	Voice	WTM				PWM	DAC				
N566LP120	416	124	93	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP160	528	158	119	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP200	638	192	144	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP240	768	233	174	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP280	896	272	204	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin
N566LP320	1022	311	233	2	8	1.0~3.6V	4,6,8	TRIM	12-bit	-	3.3, 4.2	384	✓	2-pin

ViewTalk® Series

• N531A170 8-bit μ C Base, 2-ch Voice + Dual Tone Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
N531A170	509	1K	170	128x2	16 I/O	12-bit	-	64x16	1/4, 1/5	1/8, 1/16

• W539A 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ B/W 1K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	Bias	Duty
						PWM	DAC			
W539A804	505	1K	120	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
W539A806	761	1K	180	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16
W539A808	1017	1K	250	128x2	24 I/O	12-bit	13-bit	64x16	1/4, 1/5	1/8, 1/16

• N539T 8-bit μ C Base, 8-ch Voice + Wavetable Melody Synthesizer w/ 4-Gray Level, 2K-Dot LCD Driver

Part No.	ROM (Kbytes)	Working RAM (Bytes)	Duration (Sec.)	Dual Page LCD RAM (Bytes)	GPIO	Audio		LCD Resolution (SEGxCOM)	PWM Output	SIM	Bias	Duty
						PWM	DAC					
N539T171	509	1K	120	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T261	765	1K	180	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539T341	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	6-pin	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32
N539TP340 (OTP)	1021	1K	250	256x2x2	24 I/O	12-bit	13-bit	64x32 or 72x24	-	✓	1/4, 1/5, 1/6, 1/7	1/16, 1/24, 1/32

Peripheral Series

■ Nu-Touch

• N55T Capacitor Sensor Controller

Part No.	Input	Wake Up	V _{DD} (V)	Interface
N55T16	16	√	2.1~5.5	I ² C, SPI
N55T24	24	√	2.1~5.5	I ² C, SPI

■ ADC

• N55AD SAR ADC

Part No.	Channel	Resolution	V _{DD} (V)	Conversion Rate
N55AD808	8	8-bit	2.7~5.5	50 KHz

■ I/O Expander

• N55P242 I/O Expander w/ 24 I/O Pins and SPI Interface

Part No.	Interface	GPIO	Wake Up	H/W PWM	Constant Current	Internal OSC
N55P242	SPI	24 I/O	√	24-pin	24-pin	8 MHz

■ MFID Family

• N55MID, 13.56MHz MFID w/ Single-Tag/Multi-Tag and Reader

Part No.	Category	Frequency (MHz)	ID type	ID No.	Anti-collision	μC Interface
N55MID16	Single-tag	13.56	Bonding-ID	729	-	-
N55MID36	Multi-tag	13.56	Bonding-ID	729	4~6 tags	-
N55MID51	Reader	13.56	-	-	-	Serial/Parallel

■ PA Family

N55PA, PWM Power Amplifier

Part No.	V _{DD} (V)	Mute Function	Gain Control	MIC Line In	Output Power	Package
N55PA01A	2.0~5.5V	Yes	Ext. R	Yes	1W (@ 5.5V, 8Ω, THD + N =1%)	SOP8
*N55PA03A	2.0~5.5V	Yes	Ext. R	Yes	3W (@ 5.5V, 4Ω, THD + N =1%)	SOP8

* Under Development

NSP 系列

NSP 系列是先进的语音 IC，内嵌 Flash，并配备新算法，可实现高品质音质的语音提示应用。它提供 I2C、UART 和 GPIO 接口与主机 MCU、ISP 通信以进行内容更新，并支持高分辨率 PWM 输出直接驱动扬声器，适合所有语音辅助应用。

NSP2xxxA 系列具有 0.5W 输出功率，采用 SOP8 封装形式。

NSP2xxxA01G 系列具有 1.0W 输出功率，采用 SOP16 封装形式

NSP2xxxT06E 系列，带 6 个电容式触摸板，采用 TSSOP28 封装形式

NSP2xxxT16L 系列采用 LQFP48 封装形式，支持多达 16 个电容触摸板

• NSPxxx, Embedded Flash, 1-ch Voice for Voice Assistance Application

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio PWM	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Operation Temperature
		8KHz	12KHz								
NSP040A	SOP8	60	40	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	No	-20°C~ 85°C
NSP082A	SOP8	94	63	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP172A	SOP8	155	103	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP342A	SOP8	337	225	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP481A	SOP8	458	305	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire	Yes	-20°C~ 85°C
NSP650B	SOP14	701	467	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C
NSP960B	SOP14	944	629	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C
NSP2K0B	SOP14	1896	1264	2.0~5.5	1.9	1	13-bit	0.5W	One-Wire, Two-Wire, UART	Yes	-20°C~ 85°C

• NSP2xxx, Embedded Flash, 2-ch Voice for Voice Assistance Application w/ I2C and UART

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio PWM	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Operation Temperature
		12KHz	16KHz								
NSP2080A	SOP8	96	72	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2170A	SOP8	177	133	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2340A	SOP8	420	315	2.0~5.5	1.9	2	13-bit	0.5W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2080A01G	SOP16	96	72	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2170A01G	SOP16	177	133	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C
NSP2340A01G	SOP16	420	315	2.0~5.5	1.9	2	13-bit	1.0W	One-Wire, Two-Wire, I2C, UART	Yes	-40°C~ 85°C

• NSPxx, Embedded OTP, 1-ch Voice for Voice Prompt Application

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio PWM	Output Power (@VDD 5.5V)
		8KHz	12KHz					
NSP075A	SOP8	81	49	2.0~5.5	2.0	1	12-bit	0.5W
NSP165A	SOP8	162	97	2.0~5.5	2.0	1	12-bit	0.5W
NSP335A	SOP8	324	194	2.0~5.5	2.0	1	12-bit	0.5W
NSP075B	SOP14	81	49	2.0~5.5	2.0	1	12-bit	0.5W
NSP165B	SOP14	162	97	2.0~5.5	2.0	1	12-bit	0.5W
NSP335B	SOP14	324	194	2.0~5.5	2.0	1	12-bit	0.5W

• NSP2xxxT, Embedded Flash, 2-ch Voice for Voice Assistance Application w/ I2C, UART and Cap Touch

Part No.	Package	Duration(Sec)		V _{DD} (V)	LVR (V)	Speech CH	Audio PWM	Output Power (@VDD 5.5V)	Interface to MCU	ISP	Cap Touch	Operation Temperature
		12KHz	16KHz									
NSP2080T06E	TSSOP28	96	72	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2170T06E	TSSOP28	177	133	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2340T06E	TSSOP28	420	315	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	6-pin	-40°C~ 85°C
NSP2080T16L	LQFP48	96	72	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C
NSP2170T16L	LQFP48	177	133	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C
NSP2340T16L	LQFP48	420	315	2.1~5.5	1.9	2	13-bit	0.5W	Two-Wire, I2C, UART	Yes	16-pin	-40°C~ 85°C

NSC 系列

NSC74 系列是采用 ARM® Cortex-M0 32 位微控制器内核的强大声音控制器芯片。NSC74 系列嵌入 256KB ~ 1,536 KB 的非挥发性闪存、6 KB 引导加载程序和 12 KB SRAM。NSC74 提供的外围设备包括 ADC、定时器、外设直接内存访问 (PDMA)、IR 载波、低电压检测器 (BOD)、低电压复位 (LVR)、MIC 以及多达 30 个与 SPI、UART、可寻址 LED 共享的 GPIO、I2C、IR、PWM 输出和 CapTouch 按键。

NSC74xxxZ 系列采用 QFN32 封装，支持 19 个 GPIO

NSC74xxxL 系列采用 LQFP48 封装，支持 30 个 GPIO

• NSCxx, 32-bit Cortex M0 w/ Embedded Flash, GPIO, ADC, MIC, CapTouch

Part No.	Package	VDD (V)	Flash (KByte)	Duration (Sec)	GPIO	Interface	ADC (10 bit)	Cap Touch	MIC	Audio	ICE	BOD	LVR	Operation Temperature
				12KHz						Output				
NSC74256L	LQFP48	1.8 ~ 5.5	256	128	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74512L	LQFP48	1.8 ~ 5.5	512	286	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K0L	LQFP48	1.8 ~ 5.5	1024	602	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K5L	LQFP48	1.8 ~ 5.5	1536	919	30	SPI, UART, I2C, Addr. LED	5-ch	12-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74256Z	QFN32	1.8 ~ 5.5	256	128	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC74512Z	QFN32	1.8 ~ 5.5	512	286	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K0Z	QFN32	1.8 ~ 5.5	1024	602	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C
NSC741K5Z	QFN32	1.8 ~ 5.5	1536	919	19	SPI, UART, I2C	-	5-pin	Yes	DPWM	Yes	Yes	Yes	-40°C~ 85°C

Audio Converters

新唐 CODEC 分别是单 / 双通道的低功耗、高质量编解码器，适用于便携式和通用音频应用。除了精密 24 位立体声 ADC 和 DAC 之外，器件还集成了广泛的附加功能，以简化完整音频系统解决方案的实施。并提供通用型的 5 x 5 32 pin QFN 以利设计者缩短产品从设计至量产的时间。先进的芯片内置数字信号处理包括 5 频段均衡器、3D 音频增强器、麦克风混合信号自动电平控制或通过 ADC 进行回放路径的线路输入。ADC 路径中提供了额外的数字滤波选项，以简化特定应用要求的实现。电源上采用 2.5V 至 3.6V 的模拟电源电压运行，而数字内核可在 1.7V 的电压下运行以节省功耗。扬声器 BTL 输出对和两个辅助线路输出可使用 5V 电源运行，以提高输出功率能力，部份型号能够为外部扬声器驱动 1 瓦功率。内部寄存器控制通过在软件控制下关闭芯片子部分的电源来实现灵活的省电模式。

• Audio CODEC Series - Mono CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8810	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8810-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
NAU88C10	Mono Audio CODEC	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C10-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
NAU88U10	Mono Audio CODEC (*AEC-Q100)	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C10-DEMO	2-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN20 (4x4)
NAU8812	Mono Audio CODEC with Speaker Driver	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8812-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5) SSOP-28
NAU8814	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU8814-DEMO	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)
NAU88C14	Mono Audio CODEC with Speaker Driver, Equalizer	1	1	91	93	-79	-84	8~48	I2S PCM(TDM)	NAU88C14-DEMO	2-Wire 3-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN24 (4x4)

• Audio CODEC Series - Stereo CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8820	Stereo Audio CODEC	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8820-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU8822A	Stereo Audio CODEC with Speaker Driver	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8822A-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU88U22A	Stereo Audio CODEC with Speaker Driver (*AEC-Q100)	2	2	90	94	-80	-84	8 ~ 48	I2S PCM(TDM)	NAU8822A-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU88C22	Stereo Audio CODEC with Speaker Driver	2	2	89	89	-78	-84	8 ~ 192	I2S PCM(TDM)	NAU88C22-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)

• Audio CODEC 系列 - ULP (Ultra Low Power) CODEC

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	Control Interface	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU88L11	ULP Mono Audio CODEC with Class-G Headphone Driver	1	1	103	105	-93	-85	8 ~ 96	I2S PCM(TDM)	NAU88L11-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN20 (4x4)
NAU88L20	ULP Stereo CODEC with Stereo Differential Lineout Driver	2	2	98	100	-91	-85	8 ~ 96	I2S PCM(TDM)	NAU88L20-DEMO	2-Wire	2.5 ~ 3.6 2.5 ~ 3.6	QFN32 (4x4)
NAU88L21	ULP Stereo Audio CODEC with Class-G Headphone Driver	2	2	103	105	-91	-80	8 ~ 192	I2S PCM(TDM)	NAU88L21-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (4x4) QFN32 (5x5)
NAU88L21C	ULP Stereo Audio CODEC with Class-G Headphone Driver	2	2	103	105	-93	-85	8 ~ 192	I2S PCM(TDM)	-	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (5x5)
NAU88L24	ULP Stereo Audio CODEC with Advanced Headset Feature Class-D Amp	2	2	100	103	-85	-77	8 ~ 96	I2S PCM(TDM)	NAU88L24I-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN48 (6x6) QFN48 (7x7) WLCSP56
NAU88L25B	ULP Stereo Audio CODEC with Advanced Headset Feature & Detection Class-G Headphone Driver	1	2	101	124	-91	-89	8 ~ 192	I2S PCM(TDM)	NAU88L25-DEMO	2-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN32 (5x5) WLCSP42

• Audio ADC 系列

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8501	Stereo Audio ADC with Line Input Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	NAU8501-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (4x4)
NAU8502	Stereo Audio ADC with Differential Microphone Inputs	2	-	90	-	-80	-	8~48	I2S PCM(TDM)	NAU8502-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU85L20B	ULP Stereo Audio ADC with Integrated FLL Microphone Preamplifier	2	-	101	-	-91	-	8~96	I2S PCM(TDM)	NAU85L20-DEMO	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)
NAU85L40B	ULP Quad Audio ADC with Integrated FLL Microphone Preamplifier	4	-	101	-	-91	-	8~96	I2S PCM(TDM)	NAU85L40-DEMO	2-Wire 3-Wire	1.6 ~ 2.0 1.6 ~ 3.6	QFN28 (4x4)

• Audio DAC 系列

Part No.	Description	# of		SNR (dB)		THD (dB)		Sample Rate (KHz)	Audio Format	Development Tools	CTRL IF	Analog/Digital (V)	Package
		ADC	DAC	ADC	DAC	ADC	DAC						
NAU8401	Stereo Audio DAC with Speaker Driver	-	2	-	94	-	-84	8 ~ 48	I2S PCM(TDM)	NAU8401-DEMO	2-Wire 3-Wire 4-Wire	2.5 ~ 3.6 1.6 ~ 3.6	QFN32 (5x5)
NAU8402	Stereo Audio DAC with 2Vrms Line Output	-	2	-	98	-	-82	24 ~ 96	I2S PCM(TDM)	NAU8402-DEMO	-	3.0 ~ 3.6 1.6 ~ 3.6	TSSOP 16
*NAU8421	Stereo Audio DAC with 8Vpp Differential Output	-	2	-	122	-	-100	8 ~ 192	I2S PCM(TDM)	-	2-Wire	-	QFN32 (5x5)

* Under Development

• Precision ADC 系列

Part No.	Description	# of		Resolution Bits	ADC Type	ENOB (Gain=1, 10SPS)	RMS Noise (PGA=128)	Sample Rate Max (Hz)	Gain	Development Tools	CTRL IF	Analog/Digital (V)	Package
		ADC	DAC										
NAU7802	Precision Audio ADC	2	-	24	Sigma-Delta	23	50nV in 10 SPS 150nV in 80 SPS	10, 20, 40, 80 & 320	1x, 2x, 4x, 8x, 16x, 32x, 64x, 128x	NAU7802-EVB	2-Wire	2.7 ~ 5.5 2.7 ~ 5.5	SOP16 PDIP16

Contact us: AudioConverter@nuvoton.com

Audio Amplifiers

Nuvoton 的高效音频放大器旨在满足市场对便携式消费设备（如监控、平板电脑、扩展坞、便携式音频和视频播放器、液晶和 LED 电视以及玩具）低待机电流和降低开关噪声的需求。产品的主要特性包括超低静态电流、低 EMI 和高电源抑制比 (PSRR)。

• 2Vrms Line Driver 系列

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μ Vrms)	Gain (dB)	Standby Current (μ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU8220	2Vrms Line Driver	-	<0.1	108	-	-	-	3.0 ~ 3.6	NAU8220WG-EVB	SOP14 TSSOP14

• Class-AB 系列

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μ Vrms)	Gain (dB)	Standby Current (μ A)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
ISD8101	1.5W Class-AB Audio Amplifier with Chip Enable, Differential/ Single-Ended Inputs, Low Pop and Click	0.5 (5V,8 Ω)	<0.1	100	-	0 ~ 26	<1	2.4 ~ 5.5	ISD-DEMO8101	SOP8
		0.825 (5V,8 Ω)	<1							
		1.1 (5V,8 Ω)	<10							
ISD8102	2W Class-AB Audio Amplifier with Chip Enable, Single-Ended Inputs, Low Pop and Click	2 (5V,4 Ω)	<10	100	-	0 ~ 26	<1	2.0 ~ 5.5	ISD-DEMO8102	SOP8
ISD8104	2W Class-AB Audio Amplifier with Chip Enable, Differential Inputs, Low Pop and Click	2 (5V,4 Ω)	<10	100	-	0 ~ 26	<1	2.0 ~ 5.5	ISD-DEMO8104	SOP8

• Class D 系列

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μVrms)	Gain (dB)	Standby Current (μA)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU82011	2.9W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	2.9 (5.0V,4 Ω)	<10	-	20	Variable	<1	2.5 ~ 5.5	NAU82011Y-EVB NAU82011V-EVB	QFN16 WLCSP9
NAU82039	3.2W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	3.2 (5.0V,4 Ω)	<10	-	27	6, 12	<1	2.5 ~ 5.5	-	QFN16 WLCSP9
*NAU82106	6W Mono Class-D Audio Amplifier with Voltage Booster, Multi-Level AGC, Differential/Single-Ended Inputs	5.5 (5.0V,4 Ω)	<10	-	18	Variable	-	2.8 ~ 5.5	-	QFN20
*NAU82110	10W Mono Class-D Audio Amplifier with Differential/Single-Ended Inputs	10 (5.0V,8 Ω)	<10	-	41	Variable	-	2.7 ~ 5.5	-	QFN20
NAU8223	3.1W Stereo Filer-Free Class-D Audio Amplifier with Differential/Single-Ended Inputs	3.1 (5.0V,4 Ω)	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NAU8223-EVB	QFN20
NAU8224	3.1W Stereo Filer-Free Class-D Audio Amplifier with 2-Wire Interface, Differential/Single-Ended Inputs	3.1 (5.0V,4 Ω)	<10	-	20	0, 6, 12, 18, 24	<1	2.5 ~ 5.5	NAU8224-EVB	QFN20
*NAU82250	50W Stereo Filer-Free Class-D Audio Amplifier with Heat Sink, Differential/Single-Ended Inputs	50 (22.5V,4 Ω)	10	103	70	14, 17, 20, 23, 26, 29, 32, 36	-	5 ~ 26	-	QFN56
NAU8315	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S	3.1 (5.0V,4 Ω)	<10	-	12	3, 6, 9, 12	<1	2.5 ~ 5.5	NAU8315-DEMO	QFN20 WLCSP9 WLCSP12
NAU8325	3.1W Mono Filer-Free Class-D Audio Amplifier with I2S, 2-Wire Interface	3.1 (5.0V,4 Ω)	<10	-	18	3, 6, 9, 12	<2	2.5 ~ 5.5	NAU8325-DEMO	QFN20
NAU83P20	20W High-Efficiency Class-D Audio Power Stage for Driving Stereo Bridge-Tied Speakers	20W (18.0V,8 Ω)	<10	105	-	-	<1	4.5 ~ 24	-	QFN48

* Under Development

• Smart Amp 系列

Part No.	Description	Output Performance		SNR (dB)	Output Noise (μVrms)	Speaker Protection	Standby Current (μA)	Operating Voltage (V)	Development Tools	Package
		Power (W)	THD+N (%)							
NAU83G10	12W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	8 (5.0V,4 Ω) 6.5 (5.0V,8 Ω)	<10	101	55	Integrated DSP	<13	2.9 ~ 5.5	NAD-NAU83G10	WLCSP50
NAU83G20	20W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	20 (12.6V,4 Ω) 11 (12.6V,8 Ω)	<10	101	65	Integrated DSP	<16	14 (MAX)	NAD-NAU83G20	WLCSP50
NAU83G60	30W Stereo / 60W Mono Boosted Class-D Amplifier with Klippel Controlled Sound DSP	30 (18V,4 Ω)	<10	-	-	Integrated DSP	-	6 ~ 18	-	QFN56

Contact us: AudioAmp@nuvoton.com

Audio Enhancement

Nuvoton 向市场推出了纯 DSP 和 DSP+AMP 集成解决方案中的两个音频增强系列。新唐解决方案基于 Waves(R) [格莱美奖得主] 的 MaxxAudio(R) 解决方案，已在一些世界领先的音频产品中运行

Part No.	Description	HW Configuration					Algorithms									
		I²S Stereo Inputs	ADC Stereo Inputs	I²S Stereo Output	DAC Single Output	Power Output	Bass	Pro. Eq.	3D	Treble	Volume	Level	Dialog	DRC	V3D	Package
NPCA110B	MaxxAudio	1	2	1	2	-	Y	Y	-	-	Y	-	-	-	-	QFN32
NPCA110D	MaxxAudio	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCA110P	MaxxAudio	2	3	3	4	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN40
NPCA110T	MaxxAudio	3	0	3	3	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCA112D	MaxxAudio	4	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	-	-	QFN32
NPCP215F	MaxxAudio	4	0	3	0	20W (8R)	Y	Y	Y	Y	Y	Y	Y	-	-	QFN48
NPCA120D	DPS	2	0	2	0	-	Y	Y	Y	Y	Y	Y	Y	Y	-	LQFP64
NPCA121D	DPS	3	0	3	0	-	Y	Y	Y	Y	Y	Y	Y	Y	Y	LQFP64

ISD ChipCorder®

新唐科技的 ISD ChipCorder® 系列提供完整的单芯片解决方案，用于语音、音频录制和回放。它旨在为嵌入式应用提供最高质量的单片语音记录 / 回放解决方案。ISD ChipCorder® 非常适合在消费性产品、工业应用和安全性产品中添加预先录制的语音提示和音频或声音反馈，应用于触摸按钮、警报、交互式菜单和语音备忘录。

目标应用：汽用仪表盘、智能家电、紧急救援装置、门禁报警 等需要语音播报的场景

数字式 ChipCorder® 系列

新唐科技极为成功的数字式 ChipCorder 系列语音 / 音频晶片，能达成新一代的汽车、医疗照护及工业应用，这些应用通常需要较多的音频输出功率，以便为用户提供重要的预录信息。

ISD 数字系列是一种多重信息的 ChipCorder 产品，具备数字压缩、全面化的记忆体管理、快闪记忆体储存，以及整合式的模拟 / 数字音频信号路径。其信息管理功能是为了让录制信息变得简单及免除位址，以及更方便为仅回放的应用程式开发程式码而设计。本系列产品采用快闪记忆体来提供静态的录音 / 播放，其单晶片解决方案的持续时间从 10 秒最长至 16 分钟。ISD 数字式 ChipCorder 系列提供 I²S 数字音频接口，与先前的模拟式 ChipCorder 系列相比，这些装置能提供更高的取样频率、改进的 SNR、更低的功率、快速的程式化时间，以及整合的程式验证功能。

除了提供高品质音频提示或音效和增强使用接口的喇叭之外，本数字系列不需要外部基频来源或元件。此外，这些零件能在 1K 位元组磁节内提供静态快闪储存空间，因此能免除额外序列 EEPROM / 快闪装置的需要。ISD 数字系列产品可透过 I²S 或 SPI 接口获取数字音频。本系列产品具有内置的模拟音频输入、模拟音频线路驱动器，以及喇叭驱动器输出。

ISD ChipCorder®

• 数字式 ChipCorder® 系列

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Development Tools	Temp (°C)	Package
ISD15102	Multi-Message, Record/Playback with Int. Flash Memory, SPI	2 min	Up to 48	2.7 ~ 3.6	ISD-DMK_15100	-40 ~ 85	LQFP48
ISD15104		4 min					
ISD15108		8 min					
ISD15C00	Multi-Message, Record/Playback with Int. Flash Memory, SPI (*AEC-Q100)	Ext. Flash up to 64 min	Up to 48	2.7 ~ 3.6	ISD-DMK_15C00	AEC-Q100	LQFP48
ISD15D00	Multi-Message, Playback-Only with Ext. Flash Memory, SPI (*AEC-Q100)	Ext. Flash up to 64 min	Up to 48	2.7 ~ 5.5	ISD-DMK_15D00	AEC-Q100	QFN32
ISD2115A	Multi-Message, Playback-Only with Int. Flash Memory, SPI	16 sec	Up to 32	2.7 ~ 3.6	ISD-DMK_2100_Q	-40 ~ 85	SOP14 QFN20
ISD2130		32 sec					
ISD2360	Multi-Message, 3-Channel Audio, Playback-Only with Int. Flash Memory	64 sec	Up to 32	2.4 ~ 5.5	ISD-DMK_2360_Q	-40 ~ 85	SOP16 QFN32
ISD2361	Multi-Message, 3-Channel Audio, Playback-Only with Int. Flash Memory, SPI	60 sec + Ext. Flash up to 1024 min	Up to 32	2.4 ~ 5.5	ISD-DMK_2361	-40 ~ 105	SOP16 QFN32
ISD3800	Multi-Message, Playback-Only with Ext. Flash Memory, SPI	Ext. Flash up to 64 min	Up to 48	2.7 ~ 5.5	ISD-DMK_3800	-40 ~ 85	LQFP48 QFN32
*ISD3810	Multi-Message, Playback-Only with Ext. Flash Memory, SPI, I2C	Ext. Flash up to 1024 min	Up to 48	2.7 ~ 5.5	-	-40 ~ 105	LQFP48 QFN32
ISD3900	Multi-Message, Record/Playback with Ext. Flash Memory, SPI	Ext. Flash up to 64 min	Up to 48	2.7 ~ 3.6	ISD-DMK_3900	-40 ~ 85	LQFP48

* Under Development

Contact us: ChipCorder@nuvoton.com

模拟式 ChipCorder® 系列

ISD MLS ChipCorder® 系列能为 6 秒至 16 分钟的传讯应用提供高质量、完全整合、单芯片的录音 / 回放解决方案，非常适合透过麦克风或可携式产品中的模拟输入进行实时录音。MLS 系列是为了在独立或微控制器 (SPI、I²C) 模式中运作而设计。某些装置采用专属的讯息管理系统，可让芯片自行管理多重讯息的地址。此一独特的功能，能在简单的促动按钮环境中提供精密的传讯弹性。本装置包括一个芯片上振荡器 (含外部电阻控制)、麦克风前级扩大机含自动增益控制 (AGC)、一个辅助模拟输入、反混迭滤波器、多层式储存 (MLS) 数组、平滑化滤波器、音量控制、Class D/AB 喇叭驱动器，以及电流 / 电压输出。

其录音会储存在芯片上的快闪记忆格内，以提供零功率讯息储存。本独特的单芯片解决方案采用新唐专利的多层式储存技术。语音及音频讯号会以其自然形式直接储存在内存数组中，以提供高质量的语音重现。

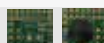
• MLS ChipCorder® 系列

Part No.	Description	Duration	Sample Rate (KHz)	Operating Voltage (V)	Development Tools	Temp (°C)	Package
ISD14B20	Multi-Message Record/Playback with Int. Flash Memory, SPI	32 sec	Up to 12	2.4 ~ 5.5		0 ~ 50	DIE
ISD14B40		64 sec					
ISD14B80		128 sec					
ISD1610B	Single-Message Record/Playback with Int. Flash Memory	16 sec	Up to 12	2.4 ~ 5.5	I16-COB20	0 ~ 50 -40 ~ 85	DIE SOP16
ISD1616B		32 sec					
ISD1620B		64 sec					
ISD1730	Multi-Message, Record/Playback with Int. Flash Memory, SPI	32 sec	Up to 12	2.4 ~ 5.5	ISD-COB1730	0 ~ 50 -40 ~ 85	DIE SOP28
ISD1760		64 sec			ISD-COB1760		
ISD17120		128 sec			ISD-COB17150		
ISD17240		256 sec			ISD-COB17240		
ISD1806	Single-Message Record/Playback with Int. Flash Memory	6 sec	Up to 8	2.7 ~ 4.5	ISD-COB1810	0 ~ 50	DIE
ISD1810		8 sec					
ISD18A04		4 sec		2.4 ~ 5.5	ISD-COB18A04		
ISD18B12		6 sec		2.4 ~ 5.5	ISD-COB18B24		
ISD18B24		12 sec					
ISD18C10		8 sec		2.7 ~ 4.5	ISD-COB18C10		
ISD1916	Multi-Message, Record/Playback with Int. Flash Memory	16 sec	Up to 12	2.4 ~ 5.5	ISD-DEMO1964	-40 ~ 85	SOP28
ISD1932		32 sec					
ISD1964		64 sec					
ISD4002	Multi-Message Record/Playback with Int. Flash Memory, SPI	2 ~ 16 min	Up to 8	2.7 ~ 3.3	-	0 ~ 50	DIE PDIP28 SOP28
ISD4003						0 ~ 70	
ISD4004						-40 ~ 85	
ISD5102	Multi-Message Record/Playback with Int. Flash Memory, I2C	2 ~ 16 min	Up to 8	2.7 ~ 3.3	-	0 ~ 50	DIE PDIP28 SOP28
ISD5104						0 ~ 70	
ISD5108						-40 ~ 85	
ISD5116							

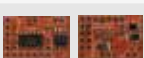
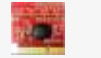
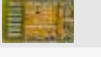
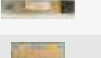
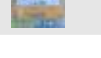
Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) ICE Development System				
ICE-N584H	NHS-584H-ICE	• N584H ICE System	• N584H (Mask) and N584HP/N584P (OTP) ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-W588D-FS	WHS-588D-ICE	• WHS-MINI-USB-ICE System V1.1 • WHS-588D-ICE System V3.3	• W588C/D ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-W584A-FS	WHS-584A-ICE	• WHS-584A-ICE-IL System V1.1 • WHS-584A-ICE System V1.2	• W584A ICE Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging	
ICE-N588H	NHS-588H-ICE	• WHS-MINI-USB-ICE System V1.1 • NHS-588H-ICE System V1.1	• N588H/J (Mask) and N588HP/J (OTP) ICE Dev. Kit. Provide In-Circuit Emulation w/ Program, Execute, Verification & Debugging.	

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) Evaluation Board, Tiny Board, Writer				
NV-W584A-H	WHS-584AH-16M	• W584A/B/C Series EVB	• W584A/B/C Series Evaluation Board with 16Mbit Flash	
NV-W584AP20	NHS-584AP20	• W584AP065(W584AP20) OTP EVB	• W584AP065(W584AP20) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-W584AP05	NHS-584AP05	• W584AP017(W584AP05) OTP EVB	• W584AP017(W584AP05) One-Time Programmable (OTP) Evaluation Board (EVB)	
N584P070-TB	N584P070-TB	• N584P070 Tiny Board	• N584P070 Tiny Board to Cover N584P040, N584P070	
N584P170-TB	N584P170-TB	• N584P170 Tiny Board	• N584P170 Tiny Board to Cover N584P120, N584P170	
N584P300-TB	N584P300-TB	• N584P300 Tiny Board	• N584P300 Tiny Board to Cover N584P210, N584P260, N584P300	
NV-N584H	NHS-584H-16M	• N584H Series EVB	• N584H Series Evaluation Board w/ 16Mbit Flash	
NV-N584HP300	NHS-584HP300	• N584HP300 OTP Demo Board	• N584HP300 (OTP) Demo Board (COB)	
NV-N584L-3V	NHS-584L-16M-3V	• N584L Series EVB with Vp=3V	• N584L Series Evaluation Board w/ 16Mbit Flash for Vp=3V	
NV-N584L-4V	NHS-584L-16M-4V	• N584L Series EVB with Vp=4V	• N584L Series Evaluation Board w/ 16Mbit Flash for Vp=4V	
NV-W588D	WHS-588C/D-16M	• W588C/D Series EVB	• W588C/D series Evaluation Board with 16Mbit Flash	
NV-W588DF20B	WHS-W588DF20-H1	• W588DF060 (W588DF20) EVB	• W588DF060(W588DF20) Evaluation Board	
NV-N588H	NHS-588H-16M	• NHS-588H-16M EVB	• N588H/J series Evaluation Board with 16Mbit Flash Support: N588H061~650/J010~650, and N588HP062~342/J062~342 (OTP)	
NV-N588H-L	NHS-588H-08ML	• NHS-588H-08ML EVB	• N588H/J Series Evaluation Board w/ 8Mbit Low Voltage Flash Support: N588H061~340 /J010~340, and N588HP062~342/J062~342 (OTP)	
NV-N588HP080	NHS-588HP080	• N588HP080 OTP EVB	• N588HP080 (OTP) Demo Board (COB)	
NV-N588HP170	NHS-588HP170	• N588HP170 OTP Demo Board	• N588HP170 (OTP) Demo Board (COB)	
NV-N588HP340	NHS-588HP340	• N588HP340 OTP Demo Board	• N588HP340 (OTP) Demo Board (COB)	
NV-N588HP650	NHS-N588HP650	• N588HP650 OTP Demo Board	• N588HP650 (OTP) Demo Board (COB)	
N588HP082-TB	N588HP082-TB	• N588HP082 Tiny Board	• N588HP082 (OTP) Tiny Demo Board (COB) Support: N588HP062/082, N588JP062/082	

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (584, 588) Evaluation Board, Tiny Board, Writer				
N588HP172-TB	N588HP172-TB	• N588HP172 Tiny Board	• N588HP172 (OTP) Tiny Demo Board (COB) Support: N588HP122/172 and N588JP122/172	
N588HP342-TB	N588HP342-TB	• N588HP342 Tiny Board	• N588HP342 (OTP) Tiny Demo Board (COB) Support: N588HP202/252/342 and N588JP202/252/342	
NV-N588L	NHS-N588L-16M	• N588L Series EVB	• N588L Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N588LP330	NHS-588LP330	• N588LP330 OTP EVB	• N588LP330 (OTP) Demo Board (COB)	
NW-NUOTP-M	NuOTP Gang Writer	• NuOTP Gang Writer Main Board	• New OTP series 1 to 8 Gang Writer. Support for: N566GP/KP-120/160/200/240/280/320 N566HP-120/160/200/240/280/321 N588HP/JP-062/082/122/172/202/252/342 N584P040/070/120/170/210/260/300 NSP075A/165A/335A	
NW-OTP	Nuvoton OTP Writer	• Old OTP Series Writer	• Old OTP Series 1 on 1 Writer Support: N588HPxx0, N588JPxx0, N567HP330, N566HP320, N584HPxxx	
NW-OTP-SP	NW-OTP-SP	• New OTP Writer	• New OTP Writer Dongle for: N566GP/KP-120/160/200/240/280/320 N566HP-120/160/200/240/280/321 N588HP/JP-062/082/122/172/202/252/342 N584P-030/040/070/120/170/210/260/300	
NW-USB	WHS-USB-Writer	• USB Writer	• EVB USB Writer to Cover PowerSpeech/ViewTalk/ BandDirectorEVB, and NSP-OTP-EVB	

Ordering No.	Board Name	Content	Description	Picture
PowerSpeech (N589) Evaluation Board, Tiny Board, Adaptor, Writer				
NV-N589EVB	NHS-589EVB	• N589A/B/C EVB	• N589A/B/C Series Evaluation Board Support: N589A080~280, B080~340, C080~340	
N589A900-EVB	N589A900-EVB	• N589A900 EVB	• N589A/B/C/D Series Evaluation Board Support: N589A400/600/900, N589B342/480/650/960, N589C480/650/960, N589D342/480/650/960	
N589D171-EVB	N589D171-EVB	• N589D171 EVB	• N589D171 Evaluation Board Support: N589D081, N589D121 and N589D171	
N589D175-TB	N589D175-TB	N589D175 Tiny Board	• N589D175 Tiny Board Supports N589D085, N589D125 and N589D175	
N589D481-EVB	N589D481-EVB	• N589D481-EVB	• N589D481 Evaluation Board Support: N589D201, D251, D341 and D481	
N589D485-EVB	N589D485-EVB	• N589D485 Evaluation Board	• N589D485-EVB support for N589D205, N589D255, N589D345 and N589D485	
N589D485-TB	N589D485-TB	• N589D485-TB	• N589D485 Tiny Board. It Supports on N589D345, N589D255 and N589D205	
N589A-TB	N589A Tboard	• N589A/B/C (COB) Tiny Board	• N589A/B/C Series Tiny Demo Board Support: N589A080~280, B080~340, C080~340	
N589A900-TB	N589A900-Tboard	• N589A900 (COB) Tiny Board	• N589A/B/C/D Series Tiny Demo Board Support: N589A400/600/900, N589B342/480/650/960, N589C480/650/960, N589D342/480/650/960	
N589B345-TB	N589B345-TB	• N589B345 Tiny Board	• N589B345 Tiny Board to Cover N589B085, N589B125, N589B175, N589B205, N589B255, N589B345	
N589D171-TB	N589D171TBoard	• N589D171 (COB) Tiny Board	• N589D171 (COB) Tiny Demo Board Support: N589D081/121/171	
N589D481-TB	N589D481-TB	• N589D481 Tiny Board	• N589D481 Tiny Demo Board Support: N589D201/251/341/481	
N589A-STB	N589A_TOP_BOARD	• N589A Dev Platform Standard Top Board	• N589A/B/C Series Dev. Platform Standard Top Board Support: N589A080~280/B080~340/C080~340	
N589D171-STB	N589D171_TOP_Board	• N589D171 Top Board	• N589D171 Standard Top Board w/ Passive Parts Support: N589D081/121/171	
N589E081-TB	N589E081-TB	• N589E Tiny Board	• N589E Tiny Board to Support N589E041/061/081	
N589-1-WTR	N589 1-1 Writer	• N589 1-1 Writer	• N589A/B/C/D Series USB Sngle, Supports 1 to 1 Writer and ICE Debug	
N589-8-WTR-M	N589 1-8 Writer	• N589 Gang Writer Main Board	• N589A/B/C/D 1 to 8 Gang Writer (Mother Board)	
N589-8-WTR-F	N589 GANG WRITER 20180724	• N589 1-8 Gang Writer Main Board, SOP14 Adaptor Board x 8, SOP14 Socket x 8	• N589 Gang Writer Full Set, Main Board x 1, Socket Adaptor SOP14 x 8 Support N589B/C-080B/120B/170B/200B/250B/340B (SOP14)	

NSP Family

Ordering No.	Board Name	Content	Description	Picture
NSP-Flash Evaluation Board, Tiny Board, Adaptor, Writer				
NSP171A-TB1	NSP171A-TB1	• NSP171A (SOP8) Tiny Board	• NSP171A (SOP8) Tiny Demo Board Support: NSP081A, NSP171A	
NSP2340A-TB1	NSP2340A-TB1	• NSP2340A Tiny Board	• NSP2.0 Tiny Board to Support NSP2080A, NSP2170A, NSP2340A	
NSP2340A01GT	NSP2340A01G-TB	• NSP2340A01G-TB	• NSP2340A01G with 1W Output Power (@ 5.5V, 8 ohm) Tiny Board. It is Suitable for the Part Number of NSP2080A01G, NSP2170A01G, and NSP2340A01G.	
NSP2340A1EP1	NSP2340A1EP1	• NSP2340A EV Board with N55PA01A	• NSP2.0 Evaluation Board to Support NSP2080A, NSP2170A, NSP2340A	
NSP2K0B1EP1	NSP2K0B1EP1	• NSP2K0B EVB	• NSP2K0B Evaluation Board. Support Part No: NSP2K0B.	
NSP340A-TB1	NSP340A-TB1	• NSP340A (SOP8) Tiny Board	• NSP340A (SOP8) Tiny Demo Board Support: NSP080A, NSP170A, NSP340A	
NSP340B-TB1	NSP340B-TB1	• NSP340B (SOP14) Tiny Board	• NSP340B (SOP14) Tiny Demo Board Support: NSP080B, NSP170B, NSP340B	
NSP342A-TB1	NSP342A-TB1	• NSP342A Tiny Board	• NSP342A Tiny Board to support NSP082A, NSP172A, NSP342A	
NSP342A1EP1	NSP342A1EP1	• NSP342A EV Board with N55PA01A	• NSP342A EV Board with NSP082A, NSP172A, NSP342A	
NSP481A-TB3	NSP481A-TB3	• NSP481A-TB3 Tiny Board	• NSP481A with N55PA01A Tiny Board for Demo and Evaluation. It is for NSP341A and NSP481A	
NSP960B-TB1	NSP960B-TB1	• NSP960B (SOP14) Tiny Board	• NSP960B (SOP14) Tiny Demo Board Support: NSP480B/650B/960B	
NSP960B-TB3	NSP960B-TB3	• NSP960B with N55PA01A Tiny Board	• NSP960B-TB3 is Tiny Board with N55PA01A for NSP480B, NSP650B, NSP960B	
NSP-1-WTR	NSP-1-1 Writer	• NSP-Flash 1 to 1 Writer	• NSP-Flash 1 to 1 Writer to Support NSP080A/081A/170A/171A/340A/341A/481A, NSP080B/170B/340B/480B/650B/960B	
NSP-8-WTR-F	NSP-8-WTR-F	• NSP-Flash Gang Writer Main Board	• NSP Series 1 to 8 Gang Writer Full Set Support: NSP040A, NSP080A/NSP081A/NSP082A, NSP170A/NSP171A/NSP172A, NSP340A/NSP341A, NSP481A	
NSP-AP-A-1	NSP-AP-A-1	• NSP-SOP8-1 (with Adapter) * 8	• For NSP SOP8 Chip	
NSP-AP-A-2	NSP-AP-A-2	• Adaptor Board with SOP8 Socket	• Adaptor Board with SOP8 Socket for NSP082A/172A/342A and NSP2080A/2170A/2340A Gang Writer	
NSP-SOP8	Adaptor of NSP-SOP8	• NSP-Flash SOP8 Adaptor	• NSP-Flash SOP8 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP080A/081A/170A/171A/340A	
NSP-SOP8-2	NSP-SOP8-2	• Adaptor PCB	• NSP SOP8 Adaptor Board for NSP082A/172A/342A and NSP2080A/2170A/2340A Gang Writer	
NSP-SOP14	Adaptor of NSP-SOP14	• NSP-Flash SOP14 Adaptor	• NSP-Flash SOP14 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP080B/170B/340B	
NSP-SOP14-2	Adaptor of NSP-SOP14-2	• NSP-Flash SOP14-2 Adaptor	• NSP-Flash SOP14 Adaptor on NSP-8-WTR-M (Gang Writer) Support: NSP480B/650B/960B	
NSP-OTP Evaluation Board, Tiny Board, Adaptor, Writer				
NSP-OTP-EVB	NSP-OTP-EVB	• NSP-OTP Series EVB	• NSP-OTP Series Evaluation Board Support: NSP075A/165A/335A, NSP075B/165B/335B	
NSP165A-TB2	NSP165A-TB2	• NSP165A Tiny Board	• NSP165A OTP Tiny Board for NSP165A Chip.	
NW-OTP-SP	NW-OTP-SP	• New OTP Writer	• NSP-OTP 1 to 1 Writer (Dongle) Support: NSP075A/165A/335A, NSP075B/165B/335B	
NSP-OTP-D-S8	NSP-OTP-D-S8	• NSP-OTP SOP8 Adaptor	• NSP-OTP SOP8 Adaptor for NSP08-GW-M (Gang Writer) Support: NSP075A, NSP165A and NSP335A	

Contact us: Toy@nuvoton.com

BandDirector® Family

Ordering No.	Board Name	Content	Description	Picture
BandDirector ICE Development Kit				
ICE-W567C	WHS-BD567C	- WHS-MINI-USB-ICE System V1.1 - WHS-567C-IC System V1.3	W567C/J In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features for Design Development, Verification & Debugging	
ICE-N566H	NHS-566H001-ICE	- WHS-MINI-USB-ICE System V1.1 - WHS-566H001-ICE System V1.0	N566H/K/G In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features for Design Development, Verification & Debugging	
ICE-N567H	WHS-N567H-ICE	- WHS-MINI-USB-ICE System V1.1 - WHS-N567H-ICE System V3.0	N567G/H/K In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Step Through Features For Design Development, Verification & Debugging	
BandDirector Evaluation Board (EVB), Writer				
NV-W567C	WHS-567C-16M	W567C/J Series EVB	W567C/J Series Evaluation Board (EVB) with 16Mbit Flash	
N566H-EVB	NHS-566H001-16M	N566H/K/G Series EVB	N566H/K/G Evaluation Board (EVB) with 16M-bit Parallel Flash	
NV-N567H	WHS-N567-H1	N567G/H/K Series EVB	N567G/H/K Series Evaluation Board (EVB) with 16Mbit Flash	
NV-N567L	NHS-N567L-16M	N567L Series EVB	N567L Series Evaluation Board (EVB) with 16Mbit Flash	
NV-W567CP80	NHS-W567CP80	W567CP260(W567CP80) OTP EVB	W567CP260(W567CP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
N566HP080EVB	NHS-566HP080	N566HP080 EVB	N566HP080 OTP EV Board w/ Components	
N566HP200EVB	NHS-566HP200	N566HP200 EVB	N566HP200 EVB is for N566 Series Evaluation Board or Demo Board. It supports: N566GP120/160/200, N566KP120/160/200 and N566HP120/160/200	
NV-N566HP320	NHS-N566HP320	N566HP320 EVB	N566HP320 COB with Passive Parts	
N566HP321EVB	N566HP321-EVB	N566HP321 (New OTP) EVB	N566HP/KP/GP (New OTP) Evaluation Board Support N566HP240/280/321, N566KP240/280/320, N566GP240/280/320	
NV-N567HP80	NHS-567HP80	N567HP330(N567HP80) OTP EVB	N567HP330(N567HP80) One-Time Programmable (OTP) Evaluation Board (EVB)	
NV-N567LP330	NHS-567LP330	N567LP330 OTP EVB	N567LP330 EVB One-Time Programmable (OTP) Evaluation Board (EVB)	

ViewTalk® Family

Ordering No.	Board Name	Content	Description	Picture
ViewTalk Development Kit				
ICE-N539T-FS	NHS-539-ICE	- WHS-MINI-USB-ICE System V1.1 - NHS-539-ICE System V1.2	N539 In-Circuit Emulation (ICE) Dev. Kit. Provide In-Circuit Emulation with Program, Execute, Verification & Debugging Support: N539T170/171/260/261/340/341, N531A170	
ViewTalk Evaluation Board				
NV-N531-16M	NHS-531-16M	N531A170 EVB	N531A170 Evaluation Board with 16Mbit Flash Support: N531A170	
NV-N539T001	NHS-539001-16M	N539Txx1 Series EVB	N539Txx1 Series Evaluation Board with 16Mbit Flash Support: N539T171/261/341	
NV-N539T000	NHS-539-16M	N539Txx0 Series EVB	N539Txx0 Series Evaluation Board with 16Mbit Flash Support: N539T170/260/340	

Contact us: Toy@nuvoton.com

Development Tools for Audio Converters

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NU-NAUSB2I2C	NU-NAUSB2I2C	USB-To-I2C/I2S_V1.1	NAU88C22 NAU88L11 NAU88L21 NAU88L24I NAU88L25 NAU85L20 NAU85L40 NAU7802	• USB-To-I2C/I2S_V1.1	• USB-To-I2C/I2S_V1.1 Control Board for Audio Converters	
NL-NAU88C10	NL-NAU88C10	NAU88C10-DEMO	NAU88C10	• NAU88C10-DEMO	• Demo Board for NAU88C10YG	
NL-NAU88C22	NL-NAU88C22	NAU88C22-DEMO	NAU88C22	• NAU88C22-DEMO	• Demo Board for NAU88C22YG	
NL-NAU88L11	NL-NAU88L11	NAU88L11-DEMO	NAU88L11	• NAU88L11-DEMO	• Demo Board for NAU88L11YG	
NL-NAU88L20	NL-NAU88L20	NAU88L20-DEMO	NAU88L20	• NAU88L20-DEMO	• Demo Board for NAU88L20YG	
NL-NAU88L21	NL-NAU88L21	NAU88L21-DEMO	NAU88L21	• NAU88L21-DEMO	• Demo Board for NAU88L21YG	
NL-NAU88L24I	NL-NAU88L24I	NAU88L24I-DEMO	NAU88L24	• NAU88L24I-DEMO	• Demo Board for NAU88L24IG	
NL-NAU88L25	NL-NAU88L25	NAU88L25-DEMO	NAU88L25B	• NAU88L25-DEMO	• Demo Board for NAU88L25YGB	
NL-NAU85L20	NL-NAU85L20	NAU85L20-DEMO	NAU85L20B	• NAU85L20-DEMO	• Demo Board for NAU85L20YGB	
NL-NAU85L40	NL-NAU85L40	NAU85L40-DEMO	NAU85L40B	• NAU85L40-DEMO	• Demo Board for NAU85L40YGB	
NL-NAU85L40S	NL-NAU85L40S	NAU85L40S-DEMO	NAU85L40S	• NAU85L40S-DEMO	• Demo Board for NAU85L40YGB with Single-ended Microphone	
NL-NAU7802	NL-NAU7802	NAU7802-EVB	NAU7802	• NAU7802-DEMO	• Demo Board for NAU7802	
NV-NAU8812	NV-NAU8812	NAU8812-DEMO	NAU8812	• NAU8812-DEMO	• Compact Audio Base Board + NAU8812YG Daughter Card	
NV-NAU88C14	NV-NAU88C14	NAU88C14-DEMO	NAU88C14	• NAU88C14-DEMO	• Compact Audio Base Board + NAU88C14YG Daughter Card	
NV-NAU8814	NV-NAU8814	NAU8814-DEMO	NAU8814	• NAU8814-DEMO	• Compact Audio Base Board + NAU8814YG Daughter Card	
NV-NAU8820	NV-NAU8820	NAU8820-DEMO	NAU8820	• NAU8820-DEMO	• Compact Audio Base Board + NAU8820YG Daughter Card	
NV-NAU8501	NV-NAU8501	NAU8501-DEMO	NAU8501	• NAU8501-DEMO	• Compact Audio Base Board + NAU8501YG Daughter Card	
NV-NAU8502	NV-NAU8502	NAU8502-DEMO	NAU8502	• NAU8502-DEMO	• Compact Audio Base Board + NAU8502YG Daughter Card	
NV-NAU8401	NV-NAU8401	NAU8401-DEMO	NAU8401	• NAU8401-DEMO	• Compact Audio Base Board + NAU8401YG Daughter Card	
NV-NAU8402	NV-NAU8402	NAU8402-DEMO	NAU8402	• NAU8402-DEMO	• Compact Audio Base Board + NAU8402YG Daughter Card	
NT-NAU8812	NT-NAU8812	NAU8812-Card	NAU8812	• NAU8812-Card	• NAU8812YG Daughter Card	
NT-NAU88C14	NT-NAU88C14	NAU88C14-Card	NAU88C14	• NAU88C14-Card	• NAU88C14YG Daughter Card	
NT-NAU8814	NT-NAU8814	NAU8814-Card	NAU8814	• NAU8814-Card	• NAU8814YG Daughter Card	

Contact us: AudioConverter@nuvoton.com

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NT-NAU8820	NT-NAU8820	NAU8820-Card	NAU8820	• NAU8820-Card	• NAU8820YG Daughter Card	
NT-NAU8501	NT-NAU8501	NAU8501-Card	NAU8501	• NAU8501-Card	• NAU8501YG Daughter Card	
NT-NAU8502	NT-NAU8502	NAU8502-Card	NAU8502	• NAU8502-Card	• NAU8502YG Daughter Card	
NT-NAU8401	NT-NAU8401	NAU8401-Card	NAU8401	• NAU8401-Card	• NAU8401YG Daughter Card	
NT-NAU8402	NT-NAU8402	NAU8402-Card	NAU8402	• NAU8402-Card	• NAU8402WG Daughter Card	

Contact us: AudioConverter@nuvoton.com

Development Tools for Audio Amplifiers

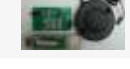
Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NE-NAU8220	NE-NAU8220	NAU8220WG-EVB	NAU8220	• NAU8220WG-EVB	• Demo Board for NAU8220WG	
NT-ISD8101	NT-ISD8101	ISD-DEMO8101	ISD8101	• ISD8101-DEMO	• Demo Board for I8101SYI	
NT-ISD8102	NT-ISD8102	ISD-DEMO8102	ISD8102	• ISD8102-DEMO	• Demo Board for I8102SYI	
NT-ISD8104	NT-ISD8104	ISD-DEMO8104	ISD8104	• ISD8104-DEMO	• Demo Board for I8104SYI	
NE-NAU82011V	NE-NAU82011V	NAU82011V-EVB	NAU82011	• NAU82011V-EVB	• Demo Board for NAU82011VG	
NE-NAU82011Y	NE-NAU82011Y	NAU82011Y-EVB	NAU82011	• NAU82011Y-EVB	• Demo Board for NAU82011YG	
NE-NAU8223	NE-NAU8223	NAU8223-EVB	NAU8223	• NAU8223-EVB	• Demo Board for NAU8223YG	
NE-NAU8224	NE-NAU8224	NAU8224-EVB	NAU8224	• NAU8224-EVB	• Demo Board for NAU8224YG	

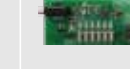
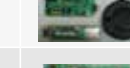
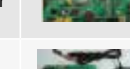
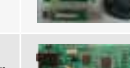
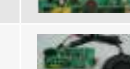
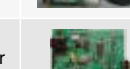
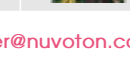
Contact us: AudioAmp@nuvoton.com

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NU-NAU8224	NU-NAU8224	NAU-ES_MINI_USB	NAU8224	• NAU-ES_MINI_USB	• USB to I ² C Bus Dongle for NE-NAU8224	
NL-NAU8315	NL-NAU8315	NAU8315-DEMO	NAU8315	• NAU8315-DEMO	• Demo Board for NAU8315YG	
NL-NAU8315B	NL-NAU8315B	NAU8315B-DEMO	NAU8315	• NAU8315B-DEMO	• Demo Board for NAU8315B31VG	
NL-NAU8318	NL-NAU8318	NAU8318-DEMO	NAU8318	• NAU8318-DEMO	• Demo Board for NAU8318YG	
NL-NAU8318B	NL-NAU8318B	NAU8318B-DEMO	NAU8318	• NAU8318B-DEMO	• Demo Board for NAU8318VG	
NL-NAU8325	NL-NAU8325	NAU8325-DEMO	NAU8325	• NAU8325-DEMO	• Demo Board for NAU8325YG	
NV-NADBASE	NV-NADBASE	NAD-BASE BOARD	NAU83G10 NAU83G20	• NAD-BASE BOARD	• Base Board of Smart Amp Series REVB	
NT-NAU83G10	NT-NAU83G10	NAU83G10-ADP	NAU83G10	• NAU83G10-ADP	• NAU83G10 Daughter Card	
NT-NAU83G20	NT-NAU83G20	NAU83G20-ADP	NAU83G20	• NAU83G20-ADP	• NAU83G20 Daughter Card	

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NV-NAU83G10S	NV-NAU83G10S	NAD-NAU83G10	NAU83G10	• NAU83G10-EVB	• Demo Board for NAU83G10 Stereo	
NV-NAU83G20S	NV-NAU83G20S	NAD-NAU83G20	NAU83G20	• NAU83G20-EVB	• Demo Board for NAU83G20 Stereo	
NM-N83G10MA	NM-N83G10MA	NAD-NAU83G10_ BRS-161200	NAU83G10	• NAD-NAU83G10_ BRS-161200	• Demo Board for NAU83G10 Mono with Bujeon BRS-161200	
NM-N83G10MB	NM-N83G10MB	NAD-NAU83G10_ BRS-181300	NAU83G10	• NAD-NAU83G10_ BRS-181300	• Demo Board for NAU83G10 Mono with Bujeon BRS-181300	
NM-N83G10SA	NM-N83G10SA	NAD-NAU83G10_ 2*BRS-161200	NAU83G10	• NAD-NAU83G10_ 2*BRS-161200	• Demo Board for NAU83G10 Stereo with 2x Bujeon BRS-161200	
NM-N83G10SB	NM-N83G10SB	NAD-NAU83G10_ 2*BRS-181300	NAU83G10	• NAD-NAU83G10_ 2*BRS-181300	• Demo Board for NAU83G10 Stereo with 2x Bujeon BRS-181300	
NM-N83G20MA	NM-N83G20MA	NAD-NAU83G20_ BUF-4203	NAU83G20	• NAD-NAU83G20_ BUF-4203	• Demo Board for NAU83G20 Mono with Bujeon BUF-4203	
NM-N83G20SA	NM-N83G20SA	NAD-NAU83G20_ 2*BUF-4203	NAU83G20	• NAD-NAU83G20_ 2*BUF-4203	• Demo Board for NAU83G20 Stereo with 2x Bujeon BUF-4203	

Development Tools for ISD ChipCorder®

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NU-ISDMINUSB	NU-ISDMINUSB	ISD-ES_Mini_USB	ISD2130 / ISD2115A ISD2360 ISD2361 ISD3900 ISD15102/04/08 ISD15C00 ISD3800 ISD15D00	• ISD-ES_Mini_USB	• USB dongle for Digital ChipCorder Demo Board	
NM-ISD2100S	NM-ISD2100S	ISD-DMK_2100_S	ISD2130 / ISD2115A	• ISD-DEMO2100_S • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD2130 / ISD2115A	
NM-ISD2100Q	NM-ISD2100Q	ISD-DMK_2100_Q	ISD2130 / ISD2115A	• ISD-DEMO2100_Q • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD2130 / ISD2115A	
NT-ISD2100S	NT-ISD2100S	ISD-DEMO2100_S	ISD2130 / ISD2115A	• ISD-DEMO2100_S	• Demo Board for ISD2130SYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NT-ISD2100Q	NT-ISD2100Q	ISD-DEMO2100_Q	ISD2130 / ISD2115A	• ISD-DEMO2100_Q	• Demo Board for ISD2130YYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD2360S	NM-ISD2360S	ISD-DMK_2360_S	ISD2360	• ISD-DEMO2360_S • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD2360	
NM-ISD2360Q	NM-ISD2360Q	ISD-DMK_2360_Q	ISD2360	• ISD-DEMO2360_Q • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD2360	

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NT-ISD2360S	NT-ISD2360S	ISD-DEMO2360_S	ISD2360	• ISD-DEMO2360_S	• Demo Board for ISD2360SYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NT-ISD2360Q	NT-ISD2360Q	ISD-DEMO2360_Q	ISD2360	• ISD-DEMO2360_Q	• Demo Board for ISD2360YYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD2361	NM-ISD2361	ISD-DMK_2361_Q	ISD2361	• ISD-DEMO2361_Q • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD2361	
NT-ISD2361	NT-ISD2361	ISD-DEMO2361_Q	ISD2361	• ISD-DEMO2361_Q	• Demo Board for ISD2361YYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD3900	NM-ISD3900	ISD-DMK_3900	ISD3900	• ISD-DEMO3900 • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD3900	
NT-ISD3900	NT-ISD3900	ISD-DEMO3900	ISD3900	• ISD-DEMO3900	• Demo Board for ISD3900FYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD15100	NM-ISD15100	ISD-DMK_15100	ISD15102/04/08	• ISD-DEMO15100 • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD15102/04/08	
NT-ISD15100	NT-ISD15100	ISD-DEMO15100	ISD15102/04/08	• ISD-DEMO15100	• Demo Board for ISD15102/04/08FYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD15C00	NM-ISD15C00	ISD-DMK_15C00	ISD15C00	• ISD-DEMO15C00 • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD15C00	
NT-ISD15C00	NT-ISD15C00	ISD-DEMO15C00	ISD15C00	• ISD-DEMO15C00	• Demo Board for ISD15C00FYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	

Contact us: ChipCorder@nuvoton.com

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NM-ISD3800	NM-ISD3800	ISD-DMK_3800	ISD3800	• ISD-DEMO3800 • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD3800	
NT-ISD3800	NT-ISD3800	ISD-DEMO3800	ISD3800	• ISD-DEMO3800	• Demo Board for ISD3800FYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NM-ISD15D00	NM-ISD15D00	ISD-DMK_15D00	ISD15D00	• ISD-DEMO15D00 • ISD-ES_MINI_USB • Speaker	• Evaluation and Demo Kit for ISD15D00	
NT-ISD15D00	NT-ISD15D00	ISD-DEMO15D00	ISD15D00	• ISD-DEMO15D00	• Demo Board for ISD15D00YYI • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NC-ISD1620B	NC-ISD1620B	I16-COB20	ISD1610/16/20	• I16-COB20	• Demo Board for ISD1610/16/20	
NC-ISD1730	NC-ISD1730	ISD-COB1730	ISD1730	• ISD-COB1730	• Demo Board for ISD1730	
NC-ISD1760	NC-ISD1760	ISD-COB1760	ISD1760	• ISD-COB1760	• Demo Board for ISD1760	
NC-ISD17150	NC-ISD17150	ISD-COB17150	ISD17150	• ISD-COB17150	• Demo Board for ISD17120	
NC-ISD17240	NC-ISD17240	ISD-COB17240	ISD17240	• ISD-COB17240	• Demo Board for ISD17240	
NC-ISD1810	NC-ISD1810	ISD-COB1810	ISD1806/10	• ISD-COB1810	• Demo Board for ISD1806/1810	
NC-ISD18B24	NC-ISD18B24	ISD-COB18B24	ISD18B12/24	• ISD-COB18B24	• Demo Board for ISD18B12/24	

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NC-ISD18C10	NC-ISD18C10	ISD-COB18C10	ISD18C10	• ISD-COB18C10	• Demo Board for ISD18C06/18C10 (SPK/MIC sharing)	
NT-ISD1964	NT-ISD1964	ISD-DEMO1964	ISD1916/32/64 Class-D output	• ISD-DEMO1964	• Demo Board for 1964SYI	
NT-ISD1964A	NT-ISD1964A	ISD-DEMO1964_AUX	ISD1916/32/64 AUX output	• ISD-DEMO1964 AUX	• Demo Board for ISD1964SYI01	
NW-ISD2100S	NW-ISD2100S	ISD-ES2100_Mini_PROG_S	ISD2115ASYI ISD2130SYI	• ISD-ES2100_Mini_PROG_S	• ISD2100 SOP Single Socket Programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISD2100Q	NW-ISD2100Q	ISD-ES2100_Mini_PROG_Q	ISD2115AYYI ISD2130YYI	• ISD-ES2100_Mini_PROG_Q	• ISD2100 QFN Single Socket Programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NG-ISD2100S	NG-ISD2100S	ISD-2100_GANG_Prog_S	ISD2115ASYI ISD2130SYI	• ISD-2100_GANG_Prog_S	• ISD2100 SOP Standalone Gang Programmer	
NG-ISD2100Q	NG-ISD2100Q	ISD-2100_GANG_Prog_Q	ISD2115AYYI ISD2130YYI	• ISD-2100_GANG_Prog_Q	• ISD2100 QFN Standalone Gang Programmer	
NW-ISD2360S	NW-ISD2360S	ISD-ES2360_MINI_PROG_S	ISD2360SYI	• ISD-ES2360_MINI_PROG_S	• ISD2360 SOP Single Socket Programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISD2360Q	NW-ISD2360Q	ISD-ES2360_MINI_PROG_Q	ISD2360YYI	• ISD-ES2360_MINI_PROG_Q	• ISD2360 QFN Single Socket Programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	

Ordering No.	Part No.	Board Name	Supported Devices	Content	Description	Picture
NG-ISD2360S	NG-ISD2360S	ISD-2360_GANG_PROG_S	ISD2360SYI	• ISD-2360_GANG_PROG_S	• ISD2360 SOP Standalone Gang Programmer	
NG-ISD2360Q	NG-ISD2360Q	ISD-2360_GANG_PROG_Q	ISD2360YYI	• ISD-2360_GANG_PROG_Q	• ISD2360 QFN Standalone Gang Programmer	
NW-ISD15100	NW-ISD15100	ISD-ES15100_Mini_PROG	ISD15102FYI ISD15104FYI ISD15108FYI	• ISD-ES15100_Mini_PROG	• ISD15100 LQFP Single Socket Programmer • Connect to PC via ISD-ES_Mini_USB for programming and evaluation	
NW-ISDPROG	NW-ISDPROG	ISD-PROG	ISD2100 Series ISD15100 Series ISD15D00 Series	• ISD-PROG	• Digital ChipCorder Standalone Programmer • Support ISD2100/ISD15100/ISD15D00 Series	
NW-ISDIPROG1	NW-ISDIPROG1	ISD-I-PROG-1	ISD4000 Series ISD5100 Series ISD1700 Series	• ISD-PROG-1	• Digital ChipCorder Single-Chip Programmer • Support ISD4000/ISD5100/ISD1700 Series	
NE-ISD1600	NE-ISD1600	ISD-ES1600_USB_PROG	ISD1600 Series	• ISD-ES1600_USB_PROG	• USB Evaluation Board for ISD1600 Series	
NW-P1700	NW-P1700	P1700	ISD1700 Series	• P1700	• Programmer Adapter of ISD-I-PROG-1	
NE-ISD1700	NE-ISD1700	ISD-ES17XX_USB_PB	ISD1700 Series	• ISD-ES17XX_USB_PB	• USB Evaluation Board for ISD1700 Series	
NE-ISD1900	NE-ISD1900	ISD-ES1900_USB_PROG	ISD1900 Series	• ISD-ES1900_USB_PROG	• USB Evaluation Board for ISD1900 Series	

Contact us: ChipCorder@nuvoton.com

Development Tools for Audio Enhancement

Ordering No.	Part No.	BoardName	Supported Devices	Content	Description	Picture
NU-NAUSB2I2C	NU-NAUSB2I2C	USB-To-I2C/I2S_V1.1	NPCA120DD NPCA121DD NPCA120DY	• USB-To-I2C/I2S_V1.1	• USB-To-I2C/I2S_V1.1 Control Board for NPCA120/121 Demo Board	
NU-NPUSB2I2C	NU-NPUSB2I2C	USB-To-I2C/I2S	NPCA110X & NPCP215F	• USB-To-I2C/I2S	• USB-To-I2C/I2S Board for NPCA110X & NPCP215X	
NT-NPCA110PP	NT-NPCA110PP	NPCA110P Piggy Board	NPCA110P	• NPCA110P Piggy Board	• NPCA110P Piggy Board	
NE-NPCA110XB	NE-NPCA110XB	NPCA110X-EVB	NPCA110X	• NPCA110X-EVB	• NPCA110X 1 Watt Base Board	
NE-NPCP215F	NE-NPCP215F	NPCP215X-EVB	NPCP215F	• NPCP215X-EVB	• NPCP215F Demo Board	
NE-NPCA120	NE-NPCA120	EVB-NPCA120_V1.0	NPCA120DD	• EVB-NPCA120_V1.0	• NPCA120 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NL-NPCA120	NL-NPCA120	DEMO-NPCA120-V2.0	NPCA120DD	• DEMO-NPCA120-V2.0	• NPCA120DD LQFP-64 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NL-NPCA120DY	NL-NPCA120DY	DEMO-NPCA120_V3.0	NPCA120DY	• DEMO-NPCA120_V3.0	• NPCA120DY QFN-48 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	
NE-NPCA121	NE-NPCA121	EVB-NPCA121_V1.0	NPCA121DD	• EVB-NPCA121_V1.0	• NPCA121 Audio Enhancement, Bongiovi DPS, Premium Level Demo Board	
NL-NPCA121	NL-NPCA121	DEMO-NPCA121-V2.0	NPCA121DD	• DEMO-NPCA121-V2.0	• NPCA121DD LQFP-64 Audio Enhancement, Bongiovi DPS, Standard Level Demo Board	

Contact us: AudioEnhancement@nuvoton.com

nuvoTon

RUIFAN 瑞凡

云计算與安全

高整合性内嵌式控制器

用于便携式应用的内嵌式控制器

安全

可信平台模块 (TPM)

硬件监控

台式和服务端系列

笔记本电脑和网络/存储系列

接口逻辑

开关和多路复用器

接口逻辑系列

输出入

通用型 I/O 系列

超级 I/O 系列

eSIO 系列

高整合性内嵌式控制器

用于便携式应用的内嵌式控制器



新唐高度集成的嵌入式控制器 (EC) 芯片具有嵌入式 32 位、高性能 RISC 内核和集成进阶功能，专为便携式应用设计，提供了不同组合的整合功能且满足传统 I/O 的低引脚数 (LPC) 接口规范、增强型串行外设接口 (eSPI) 或 I²C 主机接口，完整地涵盖了现有广泛的可携式应用装置所需，并提供同类型中最佳、最完整的内建式控制器功能。

Part No.	Core Type	Core Max Freq.	Internal Flash Memory	SRAM	SPI Flash I/F	eSPI	LPC	SMBus / I ² C	Core UART	Peripheral SPI Ctrl	PECL	ADC	Host I/F Ch.	Host Mailbox 8042 KBC	PWM Ch./ with HB	Fan TACHs	KBD Scan	PS/2	JTAG	Package
NPCE6mnx	CR16CPlus	50 MHz	Up to 512 KB	32 KB	Up to 64 MB	√	√	5 Controllers/ 7 Ports	- 1	Master	3.1	Up to 10-bit / Up to 10 inputs	4	√ 4	8 / 8	6	18 x 8	3	Standard/ Serial	LQFP128 VFBGA128
NPCX796FC	Arm® Cortex®-M4	100 MHz	512 KB	256 KB	N/A	√	√	8 Controllers/ 10 Ports	- 2	Master/ Slave	3.1	Up to 10-bit / Up to 10 inputs	4	√ 4	10 / 8	4	18 x 8	4	Standard/ SWD	VFBGA144
NPCX797FC	Arm® Cortex®-M4	100 MHz	512 MB	384 KB	N/A	√	√	8 Controllers/ 10 Ports	- 2	Master/ Slave	3.1	Up to 10-bit / Up to 10 inputs	4	√ 4	10 / 8	4	18 x 8	4	Standard/ SWD	VFBGA144
NPCX993FA	Arm® Cortex®-M4	100 MHz	512 KB	320 KB	N/A	√	√	8 Controllers/ 10 Ports	1 4	Master/ Slave	4.0	10-bit / Up to 12 inputs	4	√ 4	10 / 8	4	18 x 8	4	Standard/ SWD	VFBGA144
NPCX998FA	Arm® Cortex®-M4	100 MHz	1 MB	512KB	NA	√	√	8 controllers / 10 ports	1 4	Master/ Slave	4.0	10-bit / Up to 12 inputs	4	V 4	10 / 8	4	18x8	4	Standard/ SWD	VFBGA144

硬件监控

台式和服务器系列



新唐台式和服务器硬件监控 IC 系列，是新唐最受欢迎的电脑产品类别之一。硬件监控 IC 广泛用于台式机和服务器的主板以及工业电脑应用中。硬件监控芯片可监控重要的硬件参数，包括电压、温度和风扇转速。当检测到异常事件时，能够发出警报或警告信号，以避免系统损坏。

Part No.	System Interface	On-chip Thermal Sensor	Remote Thermal Sensor Inputs	Voltage Monitor Inputs	Fan Tachometer Inputs	Fan Speed Control Outputs	Operation Voltage	PECL I/F	Package
NCT7802Y	SMBus/I ² C	Y	3(max)	5(max)	3	3	3.3V	3.1	QFN20
NCT7906D	SMBus/I ² C	Y	4(max)	16(max)	8	4	3.3V	3.1	TQFP64
NCT7904D	SMBus/I ² C	Y	4(max)	17(max)	12(max)	4	3.3V	3.1	LQFP48
W83795ADG	SMBus/I ² C	N	6	18(max)	14(max)	2	3.3V	2.0	LQFP48
W83795G	SMBus/I ² C	N	6	21(max)	14(max)	8(max)	3.3V	2.0	LQFP64
NCT7201Y/W	SMBus/I ² C	N	N	8 (max)	N	N	3.3V	N	QFN16/TSSOP16
NCT7202Y/W	SMBus/I ² C	N	N	12 (max)	N	N	3.3V	N	QFN20/TSSOP20
NCT7362Y	SMBus/I ² C	N	N	N	16	16	2.7V-5.5V	N	QFN24
NCT7363Y	SMBus/I ² C	N	N	N	16	16	2.7V-5.5V	N	QFN24

笔记本电脑和网络/存储系列

新唐笔记本电脑和网络/存储硬件监控 IC 系列，被业界广泛采用，用于监控重要硬件参数，包括电压、温度和风扇转速。当检测到异常事件时，这些设备发出警报或警告信号，以避免系统损坏。

Part No.	System Interface	On-chip Thermal Sensor	Remote Thermal Sensor Inputs	Voltage Monitor Inputs	Fan Tachometer Inputs	Fan Speed Control Outputs	Operation Voltage	PECL I/F	Package
NCT7511Y	SMBus/I ² C	Y	2 (max)	N	1	1	3.3V	N	QFN16
NCT7717U	SMBus/I ² C	Y	N	N	N	N	3.3V	N	SOT23-5
NCT7718W	SMBus/I ² C	Y	1	N	N	N	3.3V	N	MSOP8
NCT7719W	SMBus/I ² C	Y	2	N	N	N	3.3V	N	MSOP10
W83773G	SMBus/I ² C	Y	2	N	N	N	3.3V	N	MSOP8
NCT7601Y/W	SMBus/I ² C	N	8 (max)	N	N	N	3.3V	N	QFN16/TSSOP16
NCT7602Y/W	SMBus/I ² C	N	12 (max)	N	N	N	3.3V	N	QFN20/TSSOP20
NCT7716Y/U	SMBus/I ² C	Y	N	N	N	N	3.3V	N	DFN6/SOT23-6
NCT7728W/S	SMBus/I ² C	Y	N	N	N	N	3.3V	N	MSOP8/SOP8
NCT7725W/S	SMBus/I ² C	Y	N	N	N	N	3.3V	N	MSOP8/SOP8

超级 I/O 系列

新唐超级 I/O 系列被广泛应用于主板、工业电脑、一体机电脑和工作站应用中，支持传统输出功能（串行端口、并行端口、KBC 和通用 I/O）和高级硬件监控与控制功能。

Part No.	Interface	KBC	UART	Parallel Port	Hardware Monitor	ACPI	SMBus Master	PECI I/F	SB-TSI I/F	EuP Power Saving	Port 80	Package
NCT5104D	LPC	N	4	N	N	N	N	N	N	N	N	LQFP48
NCT5124D	LPC / eSPI	N	4	N	N	N	N	N	N	N	N	LQFP48
NCT5585D	LPC / eSPI	Y	1	N	Y	Y	Y	3.1	Y	Y	Y	LQFP64
NCT6796D-E	LPC / eSPI	Y	2	Y	Y	Y	Y	3.1	Y	Y	Y	LQFP128
NCT6106D	LPC	Y	6	Y	Y	Y	Y	3.1	Y	Y	Y	LQFP128
NCT6126D	LPC / eSPI	Y	6	Y	Y	Y	Y	3.1	Y	Y	Y	LQFP128

eSIO 系列

新唐 eSIO 家族系列，在单个芯片中结合了内置微控制器和传统的超级 I/O 功能。这些芯片可以执行传统的超级 I/O 功能，支持可编程内核允许丰富的客制化自定义功能，包括高级风扇控制和灵活的电源时序控制等。eSIO 系列产品广泛应用于游戏电脑、一体机电脑、工作站、数据中心和入门级服务器应用。

Part No.	Interface	KBC	UART	Parallel Port	Hardware Monitor	ACPI	SMBus Master	SPI I/F	PECI I/F	SB-TSI I/F	EuP Power Saving	Port 80	Built-in uC	Package
NCT6686D	LPC / eSPI	Y	2	Y	Y	Y	Y	Y	3.1	Y	Y	Y	Y	LQFP128

输出

通用型 I/O 系列

新唐通用 I/O 扩展 IC 系列允许使用者透过标准 SMBus 接口，轻松添加多个 GPIO 功能。这些芯片提供可绑定地址设置、输入中断以及 LED 和 BEEP 功能。

Part No.	Supply Voltage	GPIO	Interface	Package
NCT5655W/Y	2.3V ~ 5.5V	16	SMBus	TSSOP24/QFN24
NCT5635W/Y	2.3V ~ 5.5V	16	SMBus	TSSOP24/QFN24
NCT5616W/Y	1.8V ~ 5.5V	16	SMBus	TSSOP24/QFN24
NCT5608W/Y	1.8V ~ 5.5V	8	SMBus	TSSOP16/QFN16
NCT5632Y-L	1.8V ~ 5.5V	32	SMBus	QFN48
NCT5605Y	3.3V	14	SMBus	QFN20
W83L603G	3.3V	8	SMBus	SOP14
W83601G	5V	15	SMBus	SSOP20

安全

可信平台模块 (TPM)



NPCT75x 芯片信赖平台模块 (TPM) 是新唐科技 第七代 SafeKeeper™ 系列产品。此系列芯片符合信赖计算群组 (TCG, Trusted Computing Group) 所制订之个人计算机客户端 TPM 2.0 最新规格, 同时通过共同准则 Common Criteria (CC) EAL 4+ 安全等级认证及美国联邦信息处理标准 FIPS 140-2 level 2 密码安全认证, 为业界提供最高等级之 TPM 2.0 硬件安全防护。

Part No.	Description	TPM Main Specification Version Compliance	TCG PC Client Specific TIS Version	Compliances	Interface	Operation Temperature (°C)	Package Options
NPCT7xx	SafeKeeper™ Trusted Platform Module (TPM)	Version 2.0 revision 01.16	PTP v1.03 Rev 22	CC EAL4+ and FIPS 140-2 Level 2	SPI, I²C (1.8V-3.3V)	0 ~ 70 or -40 ~ 85	QFN32 UQFN16
		Version 2.0 revision 01.38	PTP v1.04 Rev 0.37	CC EAL4+ and FIPS 140-2 Level 2 with Physical security level 3	SPI, I²C (1.8V-3.3V)	0 ~ 70 or -40 ~ 85	QFN32 UQFN16
		Version 2.0 revision 01.59	PTP v1.05 Rev 14	CC EAL4+, FIPS certifications in progress	SPI, I²C (1.8V-3.3V)	0 ~ 70 or -40 ~ 85	QFN32 UQFN16

接口逻辑

电压电平转换器

新唐电压电平切换器系列, 提供接口连接有不同工作电压的各种芯片的能力。支持高 ESD 静电防护和接口速度。这些芯片适用于台式机、工作站、工业电脑、服务器和云计算应用。

Part No.	Operation Voltage	Interface	Inputs	Outputs	Operation Temperature (°C)	Package
NCT5927W	0.8V-5.5V/ 2.2V-5.5V	SMBus/I²C	1	1	-40~85	MSOP 8
NCT5914W	0.5V-6.0V	GTL to LVTTTL	4	4	-40~85	TSSOP14

开关和多路复用器

新唐开关和多路复用器允许连接在不同电压水平下运行但共享同一总线的设备, 以及在不使用时隔离设备以减少整个系统的电容负载。广泛应用于工作站、工业电脑、服务器和云计算应用。

Part No.	Frequency	Operation Voltage	Interface	Inputs	Outputs	Operation Temperature (°C)	Package
NCT5945W/Y	1 MHz	2.3-5.5V	SMBus/I²C	1	4	-40~85	TSSOP20/QFN20
NCT5946W/Y	1 MHz	2.3-5.5V	SMBus/I²C	1	4	-40~85	TSSOP16/QFN16
NCT5948W/Y	1 MHz	2.3-5.5V	SMBus/I²C	1	8	-40~85	TSSOP24/QFN24
NCT1901D	380Mbit	0.8-3.6V	NC-SI	2	3	-40~85	LQFP64

电源管理

TCPC (Type C Port Controller)

TCPC (Type C Port Controller) 系列

电源开关

电源开关系列

电压调节器

DDR 總線终端稳压系列

风扇驱动系列

线性稳压系列

TCPC (Type C Port Controller)



TCPC (Type C Port Controller) Series

Part No.	Description	Main Specification Version Compliance	Interface	Power Role	VCONN Switch	Type-C Ports	No. of GPIOs		Package
							Multiplexed	Dedicated	
NCT3807A0YX	Type-C Port Controller with integrated VCONN switch and GPIO expander	Type-C Cable and Connector, Revision 2.0 Power Delivery (PD), Revision 3.0, v2.0 Type-C Port Controller Interface (TCPCI), Revision 2.0, v1.1	I2C, up to 1MHz	Sink, Source and Dual Power Role	Integrated, up to 1.5W with automatic turn-off protection	1	7	9	QFN32, 5x5
NCT3808A0YX	Type-C Port Controller with integrated VCONN	Type-C Cable and Connector, Revision 2.0 Power Delivery (PD), Revision 3.0, v2.0 Type-C Port Controller Interface (TCPCI) Revision 2.0, v1.1	I2C, up to 1MHz	Sink, Source and Dual Power Role	Integrated, up to 1.5W with automatic turn-off protection	2	10	-	QFN32, 5x5

电源开关

电源开关系列

新唐电源开关系列是高集成度与性价比的解决方案。我们的产品可节省 PCB 空间，支持高边电源过流保护和系统节能应用的最佳选择。产品系列具有低导通阻抗、低输入电压和 丰富的保护，如过电流、短路、过温保护和反向电压 / 电流保护。

Part No.	Input Voltage (VIN)	Features	Rdson (typ.)	Output Current (typ.)	Flag indicator	OCP Adjustable	Output Discharge	Package
NCT3521U	2.7V ~ 5.5V	Enable; Adj. Soft-start & Shutdown Output Discharge, UVLO, OCP, RCP, RVP, OTP	80 m-ohm	2.0A	Y	N	Y	SOT23-5 SOT23-6
NCT3521U-2	2.7V ~ 5.5V	Enable; Adj. Soft-start & Shutdown Output Discharge, UVLO, OCP, RCP, RVP, OTP	80 m-ohm	2.0A	Y	N	Y	SOT23-5 SOT23-6
NCT3527U	3.0V ~ 5.5V	Enable; OCP adjustable, UVLO, OCP, RCP, RVP, OTP; Output Latched off when Flag# Alerted	70 m-ohm	2.5A	Y	Y	Y	TSOT23-6
NCT3527U-A	3.0V ~ 5.5V	Enable; OCP adjustable, UVLO, OCP, RCP, RVP, OTP; Output cycle by cycle re-try when Flag# Alerted	70 m-ohm	2.5A	Y	Y	Y	TSOT23-6
NCT3530Y	4.5V ~ 5.5V	Enable; OCP, UVLO, OCP, RCP, RVP, OTP; HDMI/DVI DDC I ² C, HPD Level Shifters	0.6 ohm	0.25A	Y	N	Y	DFN10
NCT3532Y	3.0V ~ 5.5V	Enable; OCP, UVLO, OCP, RCP, RVP, OTP; Dual Mode Display Port (DP++) Auxiliary Channels Splitter with HDMI DDC I ² C, HPD Voltage Level Translators	0.2 ohm	0.5A	N	N	N	QFN16

DDR 總線终端稳压系列

新唐 DDR 总线终端稳压器系列产品提供了双向 (吸收 / 提供) 电流给高速总线电源终端器应用。此系列提供了 DDR、DDR2、DDR3x 与 DDR4 稳定的终端电源与快速的瞬时响应。使用新唐 DDR 终端电源稳压器设计, 您可以获得高性能和具有成本效益的优势。

Part No.	Input Voltage (VIN)	Features	Control Voltage	Memory Supported	VTT Output offset (max)	Sink/Source Current (max)	Package
NCT3103S	1.0V ~ 5.5V	Sleep S3 & DDR VTT Enable Control Signals, OCP & OTP	3.0V ~ 5.5V	DDRII, DDRIII, DDRIV	-20mV ~ +20mV	2A	SOP8 with Exposed Pad
NCT3105Y	1.0V ~ 3.6V	EN with Suspend to RAM (STR) Functionality, Power Good, OCP & OTP	2.3V ~ 5.5V	DDRII, DDRIII, DDRIV	-20mV ~ +20mV	2A	DFN10
NCT3101S	1.0V ~ 5.5V	OCP & OTP	3.0V ~ 5.5V	DDRI, DDRII, DDRIII, DDRIV	-20mV ~ +20mV	2A	SOP8 with Exposed Pad

风扇驱动系列

新唐风扇驱动 IC 系列产品提供了电路板与 BOM 成本节省, 高度整合且具有成本效益的解决方案。

此系列产品可以与新唐超级 IO 系列风扇控制技术搭配使用, 用来驱动具成本优势的 DC 风扇或是 PWM 风扇。新唐风扇驱动系列产品具有过电流保护、短路保护与过温保护, 这些保护可提供使用者更安全的应用环境。

Part No.	Input Voltage (VIN)	Output Voltage	Features	V _{SET} / DCIN	Current Limit Trigger	Output Current (typ.)	Package
NCT3941S	8.0V ~ 17.6V	Follow V _{SET} *4.0 times	OCP, SCP & OTP EN: NCT3941S FON#: NCT3941S-A	1.0 ~ VIN	1.6A (typ.)	0.5A	SOP8 with Exposed Pad
NCT3941S-A	8.0V ~ 17.6V	Follow V _{SET} *4.0 times	OCP, SCP & OTP EN: NCT3941S FON#: NCT3941S-A	1.0 ~ VIN	1.6A (typ.)	0.5A	SOP8 with Exposed Pad
NCT3947S-A	10.8V ~ 13.2V	DC Mode: 3.8 * DCIN; PWM Mode: follows VIN	Auto Fan Type Detection (DC/PWM Fan), Manual Mode, Fault#, OCP, SCP & OTP	0 ~ 3.6V	3.0A ~ 4.0A	2.0A	SOP8 with Exposed Pad

线性稳压系列

新唐线性稳压系列提供高性能、低输入电压与低压差产品特性。此产品提供电源开关控制 (致能接脚) 可以达到节电功能并且有过电流保护、短路保护与过温保护, 这些保护可提供使用者更安全的应用环境。

Part No.	Input Voltage (VIN)	Features	Control Voltage	Dropout (typ.)	Output Current (typ.)	Package
NCT3720S	1V ~ 5.5V	EN, PG, UVLO, OCP, SCP & OTP	3V ~ 5.5V	150mV	2A	SOP8 with Exposed Pad
NCT3730S	1V ~ 5.5V	EN, PG, UVLO, OCP, SCP & OTP	3V ~ 5.5V	210mV	3A	SOP8 with Exposed Pad

nuvoTon**RUIFAN 瑞凡**

NM MCU

NM MCU

NM MCU 系列

NM MCP(MCU + Gate driver)

NM MCP 系列

NM MCU

NM MCU Series



全系列内建模拟比较器, rail to rail OPA or PGA(NM1200 除外)

工作电压: 2.5V ~ 5.5V

工作温度: -40° C ~ 105° C

• NM1200 系列(适用: 风扇, 吊扇, 水泵...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 10-bit	Comp	UART SPI I2C	MAX HCLK	Package Type
NM1100FBAE	17.5	2	17	2	6	8	2	1/0/0	48	TSSOP20
NM1200ZBAE	17.5	2	29	2	6	12	2	2/1/1	48	QFN33 (5x5)
NM1200LBAE	17.5	2	33	2	6	12	2	2/1/1	48	LQFP48(7x7)

• NM1120 系列(适用: 风扇, 散热风扇, 电动工具机, 园林工具机, 水泵...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (kB)	Package Type
NM1120XC1AE	29.5	4	18	2	6	8	2	2/2/2	48	2	3	1	3x0.5	QFN20 (4x4)
NM1120FC1AE	29.5	4	18	2	6	8	2	2/2/2	48	2	3	1	3x0.5	TSSOP20
NM1120EC1AE	29.5	4	22	2	6	8	2	2/2/2	48	2	3	1	3x0.5	TSSOP28

• NM1244 系列(适用: 家电风扇, 吊扇, Ebike, 滑板车, 工业缝纫机, 电动工具机, 园林工具机...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	GDMA	SPROM (kB)	OPA	DAC ch 12-bit	Package Type
NM1244D48	64	8	44	3	6	20	1	2/1/2	60	2	3	2	3x0.5	1	2	LQFP48 (7x7)
NM1244Y48	64	8	44	3	6	20	1	2/1/2	60	2	3	2	3x0.5	1	2	QFN48 (7x7)
NM1244Y	64	8	29	3	6	16	1	2/1/2	60	2	3	2	3x0.5	1	2	QFN33 (4x4)

• NM1234 系列(适用: 具编码器接口, 家用风扇, 吊扇, Ebike, 工业缝纫机, 白色家电...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (kB)	OPA	QEI (A/B/IDX)	DAC ch 12-bit	Package Type
NM1234D	64	16	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	LQFP48 (7x7)
NM1234Y	64	16	44	4	6	16	2	3/2/3	72	2	3	1	3x0.5	3	1	2	QFN48 (7x7)

• NM1530 系列(适用: 具编码器接口, CAN bus, 双马达控制, 电动机车, 工业缝纫机, 白色家电...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	CAN2.0	MDU	OPA	QEI (A/B/IDX)	Package Type
NM1520LD2AE	64	8	38	4	9	9	1	2/1/1	72	0	3	1	√	2	1	LQFP48 (7x7)
NM1520RD2AE	64	8	51	4	12	14	2	2/1/1	72	1	3	1	√	2	1	LQFP64 (10x10)
NM1520RC2AE	32	8	51	4	12	14	2	2/1/1	72	1	3	1	√	2	1	LQFP64 (10x10)
NM1530VD3AE	64	16	82	4	12	16	3	2/3/1	72	2	6	1	√	2	2	LQFP100 (14x14)
NM1530VE3AE	128	16	82	4	12	16	3	2/3/1	72	2	6	1	√	2	2	LQFP100 (14x14)

Refer to the following web site for more information
www.nuvoton-mcu.com/forum.php?mod=viewthread&tid=1819&fromuid=177288

NM MCP(MCU + Gate driver)

NM MCP Series



工作温度：-40° C ~ 105° C

• NM18107 系列 (NM1120 + 40V_Gate Driver)

(适用：使用电池系统之工具机, 手持式吸尘器/电动工具机/园林工具机/筋膜枪, 风扇...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (kB)	LDO	Package Type
NM18107Y	29.5	4	14	2	6	8	2	2/1/2	48	2	3	1	3x0.5	5V & 12V	QFN33 (5x5)

• NM1817 系列 (NM1120 + 600V_Gate Driver)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	PGA	SPROM (kB)	LDO	Package Type
NM1817NT	29.5	4	15	2	6	8	2	2/2/2	48	2	3	1	3x0.5	5V	LQFP44 (10x10)

• NM18440 系列 (NM1244 + 200V_Gate Driver)

(适用: 使用电池系统之工具机, 手持式吸尘器/电动工具机/园林工具机, 风扇, 电动滑板车/脚踏车...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	GDMA	SPROM (kB)	OPA	DAC 12-bit	LDO	Package Type
NM18440D	64	8	29	3	6	17	1	2/1/2	60	2	3	2	3x0.5	1	2	5V	LQFP48 (7x7)

• NM18002 系列 (MS51FB9AE(1T-8051) + 40V_Gate Driver(High P-ch/Low N-ch MOSFET))

(适用：单相服务器散热风扇, 直流有刷马达...等)

Part No.	Flash ROM (kB)	SRAM (kB)	I/O	Timer 16-bit	EPWM 16-bit	ADC ch 12-bit	Comp	UART I2C	MAX HCLK	SPROM (B)	LDO	Package Type
NM18002Y	16	1	9	4	4	4	2	2/1	24	128	5V	QFN24(4x4)

• NM18402 系列 (NM1244 + 40V_Gate Driver(High P-ch/Low N-ch MOSFET)) (适用: ARGB风扇, 单相服务器散热风扇, 直流有刷马达...)Server Fan, Cooling Fan, BDC...)

Part Number	Flash ROM (kB)	SRAM (kB)	I/O	Timer 32-bits	EPWM 16-bit	ADC ch 12-bit	Comp	UART SPI I2C	MAX HCLK	BPWM 16-bit	ECAP 24-bit	GDMA	SPROM (kB)	OPA	DAC ch 12-bit	LDO	Package Type
NM18402Y*	64	8	29	3	4	15	2	2/1/2	60	1	3	2	3x0.5	1	2	5V	QFN32 (4x4)

* : 工程测试阶段, 尚未量产

Refer to the following web site for more information
www.nuvoton-mcu.com/forum.php?mod=viewthread&tid=1819&fromuid=177288

Component

MOSFET

锂离子电池保护电路用途CSP MOSFET

锂离子电池充电电路切换用途CSP MOFSFET

开关电路用途CSP MOSFET

车载开关电路用途CSP MOSFET

MOSFET

CSP MOSFET 产品优势

1. 低导通电阻
2. 小型化
3. 高散热性
4. 低噪声
5. 低故障率



锂离子电池保护电路用途 CSP MOSFET

• 12V-30V Nch Dual MOSFET

1. 快速充电 · 更长续航
超低阻抗；0.9mΩ
2. 小型化
超小尺寸封装；0.6 x 0.6mm
3. 长期保存
低漏电流；IGSS=0.1μA

• VSS=12V

Part No.	Type	VSS [V]	VGS [V]	IS*1 [A]	R _{ss(on)} Typ. [mΩ]				Package Size		
					VGS 4.5V	VGS 3.8V	VGS 3.1V	VGS 2.5V	x[mm]	y[mm]	t[μm]
KFCAB21B10L	N-Dual	12	±8	22.7	0.85	0.90	1.15	1.55	3.20	1.95	106
KFCAB21C00L	N-Dual	12	±8	20.0	1.00	1.10	1.25	1.60	3.00	2.74	95
KFCAB21B60L	N-Dual	12	±8	17.0	1.35	1.50	1.70	2.25	2.52	2.30	95
KFCAB21520L	N-Dual	12	±8	16.0	1.45	1.60	1.80	2.30	3.54	1.77	110
KFCAB21B50L	N-Dual	12	±8	15.0	1.50	1.60	1.90	2.45	1.84	1.96	72
KFCAB21B90L	N-Dual	12	±8	14.5	1.75	1.95	2.25	2.90	2.98	1.49	75
KFCAB21770L	N-Dual	12	±8	14.5	1.80	2.00	2.20	2.70	3.54	1.77	110
KFCAB21260L	N-Dual	12	±8	12.0	2.00	2.20	2.40	3.10	3.54	1.77	110
KFCAB21B30L	N-Dual	12	±8	14.6	2.05	2.20	2.55	3.30	2.08	1.45	72
KFCAB21740L	N-Dual	12	±8	13.6	2.10	2.20	2.60	3.50	1.96	1.84	80
KFCAB21490L	N-Dual	12	±8	13.5	2.10	2.20	2.40	3.10	2.98	1.49	110
KFCAB21A50L	N-Dual	12	±8	13.5	2.10	2.20	2.40	3.10	2.98	1.49	110
KFCAB21350L	N-Dual	12	±8	12.0	2.10	2.20	2.40	3.10	3.05	1.77	110
KFCAB21830L	N-Dual	12	±8	12.4	2.20	2.50	3.10	4.30	1.84	1.96	80
KFCAB12004NL	N-Dual	12	±8	10.3	2.90	3.15	3.40	3.50	1.79	1.47	72
KFC6B21150L	N-Dual	12	±10.5	8.0	4.00	4.30	4.80	5.90	2.14	1.67	110
KFC6B21B70L	N-Dual	12	±8	9.0	4.20	4.60	5.40	7.40	1.89	1.24	80
FC6B21100L	N-Dual	12	±8	8.0	4.50	4.90	5.50	6.50	2.67	1.67	100
KFC4B21A30L	N-Dual	12	±8	4.6	11.5	13.0	15.0	19.5	1.11	1.11	110
KFC4B21210L	N-Dual	12	±8	4.7	12.0	13.0	14.0	17.0	1.29	1.29	100
KFC4B21280L	N-Dual	12	±8	4.0	16.0	17.0	19.0	23.0	1.11	1.11	100
KFC4B21220L	N-Dual	12	±8	3.0	21.0	23.0	26.0	33.0	0.97	0.97	100
KFC4B21080L	N-Dual	12	±12	2.9	27.0	30.0	39.0	60.0	1.11	1.11	100
KFC4B21320L	N-Dual	12	±8	2.5	36.0	39.0	45.0	58.0	0.80	0.80	100
KFC4A21300L	N-Dual	12	±8	1.5	70.0	80.0	90.0	115	0.60	0.60	200
KFC4B21300L	N-Dual	12	±8	1.5	70.0	80.0	90.0	115	0.60	0.60	100
KFC4B21330L	N-Dual	12	±8	1.5	95.0	100	115	145	0.80	0.80	100

*1: FR4 board (25.4mm x 25.4mm x t1.0mm), Min Cu

• VSS=20V-24V

Part No.	Type	VSS [V]	VGS [V]	IS*1 [A]	Rss(on)Typ.[mΩ]				Package Size		
					VGS 4.5V	VGS 3.8V	VGS 3.1V	VGS 2.5V	x[mm]	y[mm]	t[μm]
KFCAB22370L	N-Dual	20	±12	10.0	3.10	3.30	3.80	4.60	3.05	1.77	110
KFC6B22160L	N-Dual	20	±8	8.0	4.70	4.90	5.20	6.00	2.65	1.67	110
KFCAB22510L	N-Dual	20	±12	8.5	5.00	5.30	5.90	7.10	2.34	1.56	110
KFC6B22500L	N-Dual	20	±12	6.2	7.90	8.30	9.20	11.1	2.02	1.33	110
KFC4B22180L	N-Dual	20	±8	5.0	9.40	10.0	11.1	13.4	1.74	1.74	110
KFC4B22270L	N-Dual	20	±12	4.0	17.0	18.0	19.0	22.0	1.29	1.29	100
KFC4B22690L	N-Dual	20	±12	3.4	28.0	30.5	33.0	36.0	1.10	1.10	100
KFC4B22670L	N-Dual	20	±12	2.9	35.0	37.5	42.0	64.0	1.10	1.10	100
KFC4B22830L	N-Dual	20	±12	2.3	51.5	55.5	61.5	-	0.80	0.80	100
KFCAB22014NL	N-Dual	22	±12	16.7	1.50	1.60	1.75	2.15	3.20	2.10	106
KFCAB22020NL	N-Dual	22	±12	15.3	1.80	1.90	2.05	2.40	3.20	2.10	95
KFCAB22630L	N-Dual	23	±12	13.8	2.20	2.40	2.80	5.00	3.40	1.96	95
KFCAB22620L	N-Dual	23	±12	13.8	2.20	2.40	2.80	5.00	3.40	1.96	95
KFCAB22680L	N-Dual	23	±12	13.0	2.45	2.65	3.00	3.85	3.20	2.10	95
KFC6B22100L	N-Dual	24	±12	6.0	8.20	8.70	9.70	12.5	2.56	1.67	100
KFC6B22220L	N-Dual	24	±12	13.0 *2	8.20	8.70	9.70	12.5	2.56	1.67	100
KFC4B22070L	N-Dual	24	±12	3.5 *2	17.5	-	20.0	23.0	1.67	1.67	100

*1: FR4 board (25.4mm x 25.4mm x t1.0mm), Min Cu

*2: Mounted on Ceramic substrate (70mm x 70mm x t1.0mm)

• VSS=24V-30V

Part No.	Type	VSS [V]	VGS [V]	IS*1 [A]	Rss(on)Typ.[mΩ]				Package Size		
					VGS 10V	VGS 8.0V	VGS 4.5V	VGS 3.8V	x[mm]	y[mm]	t[μm]
KFCAB22900L	N-Dual	24	+16/-14	17.5	1.40	1.55	2.30	-	3.00	3.00	95
KFC7P23440L	N-Dual	30	±20	19.0	2.00	2.20	3.40	-	6.00	3.00	345
KFCAB30029NL	N-Dual	30	+20/-16	11.8	3.80	4.10	7.80	-	3.50	1.90	95

*1: FR4 board (25.4mm x 25.4mm x t1.0mm), Min Cu

锂离子电池充电电路切换用途 CSP MOSFET

• 12V-20V Nch Dual MOSFET

1. 缩短锂电池充电时长
低阻抗 ; 3.2mΩ
2. 更高的充放电转化效率
低阻抗 ; 3.2mΩ
3. 小型化
小尺寸封装 ; 2.58 x 1.29mm

• VSS=12V-20V

Part No.	Type	VSS [V]	VGS [V]	IS*1 [A]	Rss(on)Typ.[mΩ]				Package Size		
					VGS 4.5V	VGS 3.8V	VGS 3.1V	VGS 2.5V	x[mm]	y[mm]	t[μm]
KFCAB21C30L	N-Dual	12	±12	9.8	2.65	3.20	-	-	2.58	1.29	80
FCAB21A60L	N-Dual	12	±8	8.5	3.50	4.40	-	-	2.58	1.29	80
FCAB21910L	N-Dual	12	±8	8.5	3.50	4.40	-	-	2.58	1.29	80
KFCAB22860L	N-Dual	20	±12	6.7	5.00	7.00	-	-	2.58	1.29	80
FCAB22710L	N-Dual	20	±12	6.1	5.50	7.50	16.5	-	2.58	1.29	80

*1: FR4 board (25.4mm x 25.4mm x t1.0mm), Min Cu

开关电路用途 CSP MOSFET

• 12V-25V Nch/Pch Single MOSFET

1. 小型化
超小型化封装 ; 0.6 x 0.6mm
2. 低耗电
超低阻抗 ; 9.5mΩ
3. 低故障率
故障率 ; 传统树脂封装品的 1/30 (Nuvoton 产品比较)

• VDS=12V-25V

Part No.	Type	VSS [V]	VGS [V]	ID*1 [A]	Rds(on) Typ. [mΩ]				Package Size		
					VGS 4.5V	VGS 2.5V	VGS 1.8V	VGS 1.5V	x[mm]	y[mm]	t[μm]
FK4B01110L	N-Single	12	±8	3.4	47.0	57.0	70.0	91.0	0.60	0.60	100
KFK4B12034NL	N-Single	12	+8/-4	4.3	39.0	50.0	66.0	82.0	0.60	0.60	110
KFK4A12035NL	N-Single	12	+8/-4	5.3	28.0	35.0	44.0	53.0	0.78	0.78	370
FK4B01100L	N-Single	12	±8	5.2	22.0	27.0	33.0	43.0	0.80	0.80	100
FK4B01120L	N-Single	12	±8	6.5	14.0	17.0	21.0	27.0	1.00	1.00	100
KFK4B02910L	N-Single	22	±12	5.8	21.0	31.0	-	-	0.80	0.80	110
KFK4A25019NL	N-Single	25	±12	4.2	43.0	53.0	-	-	0.78	0.78	330
KFJ4B01110L	P-Single	-12	±8	-2.2	118	141	169	199	0.60	0.60	100
KFJ4B01100L	P-Single	-12	±8	-3.3	57.0	68.0	82.0	97.0	0.80	0.80	100
KFJ4B01120L	P-Single	-12	±8	-4.2	34.0	40.0	48.0	57.0	1.00	1.00	100

* 1 FR4 board (25.4m x 25.4mm x t1.0mm), Full Cu

车载开关电路用途 CSP MOSFET

• 40V-60V Nch/Pch Single MOSFET

1. 低故障率
故障率 ; 传统树脂封装品的 1/30(Nuvoton 产品比较)
2. 小型化
超小尺寸封装 ; 1.2 x 1.2mm
3. 有效抑制噪声故障
低噪声 ; L 0.01nH

• VDS=40V-60V

Part No.	Type	VSS [V]	VGS [V]	ID*1 [A]	Rds(on) Typ. [mΩ]		Package Size		
					VGS 10V	VGS 4.5V	x[mm]	y[mm]	t[μm]
FK9B0439ZL	N-Single	40	+20/-10	11.0	9.50	11.0	1.94	1.94	100
KFK9B0463ZL	N-Single	40	+20/-10	10.8	11.0	16.0	3.05	3.05	500
KFK4B40028NU	N-Single	40	+20/-10	5.5	25.0	31.0	1.20	1.20	100
KFK9B0652ZL	N-Single	60	+20/-10	8.3	18.0	20.0	1.94	1.94	100
KFK4B0613ZL	N-Single	60	+20/-10	3.5	57.0	63.0	1.20	1.20	100
KFJ9B0458ZL	P-Single	-40	-20/+10	-11.6	10.0	12.0	3.05	3.05	100
KFJ9B0438ZL	P-Single	-40	-20/+10	-7.8	20.0	23.0	2.14	2.14	100
KFJ9B0466ZL	P-Single	-40	-20/+10	-7.0	27.0	30.0	3.05	3.05	500
KFJ4B0421ZL	P-Single	-40	-20/+10	-3.2	74.0	83.0	1.20	1.20	100
KFJ9B0639ZL	P-Single	-60	-20/+10	-7.5	24.0	26.0	3.05	3.05	100
KFJ4B0622ZL	P-Single	-60	-20/+10	-3.8	56.0	60.0	2.00	2.00	100

* 1 FR4 board (25.4m x 25.4mm x t1.0mm), Full Cu

nuvoTon

RUIFAN 瑞凡

Laser Diodes

激光二极管

蓝紫色

激光二极管

藍紫色



Nuvoton Technology Corporation Japan (NTCJ) 所研发的蓝紫色激光二极管，以其特有的化合物半导体工艺制程及低能耗结构设计特点，实现了激光的高效输出、高可靠性，在工业领域收到业界好评。

● KLC4 系列

KLC4 系列产品，峰值波长为 402nm 提供 TO-CAN 封装形式。

工作温度范围广，是工业级应用的首选。

● KLC431FS01WW

振荡波长：402nm

多模横向振荡

封装形式：Φ5.6 TO 管

条宽：7μm x 1μm

额定输出功率：800mW

工作管壳温度（T_c）：0 ~ +50 °C

Part No.	Wavelength [Typ] (nm)	Rated Operating Power(mW)	Operating Case Temperature(°C)	Package
KLC431FS01WW	402	800(CW)	0 ~ 50	Φ5.6CAN

Visual Sensing

图像传感器

3D TOF 传感器

DSP / ISP

人机界面显示 LSI

音响用统合 LSI

3D TOF 传感器

- 在汽车市场及产业市场累计相当的出货业绩
- 具备高度空间识别功能可实现大范围的空间感应
- 室内室外皆能使用

KM349 系列

- TOF (Time-of-Flight/ 飞行时间) "脉冲 -TOF" 传感器有助于减轻运动模糊的影响。
- 在阳光下 / 高温下的高稳定性使其在室内和室外的环境下都可以执行识别、检测等应用。
- 1/4 与 1/8 尺寸的传感器，在高空间分辨率下拥有外形小巧占用面积小优势。

- **KM34906BRA**

光学尺寸：1/4 英寸

像素数：VGA

TOF 分类：间接 TOF

提供方式：裸片

- **KM34906B1S (车载用)**

光学尺寸：1/4 英寸

像素数：VGA

TOF 分类：间接 TOF

提供方式：封装

KW330 系列

- TOF (Time-of-Flight/ 飞行时间) " 脉冲 -TOF" 传感器有助于减轻运动模糊的影响。
- 在阳光下 / 高温下的高稳定性使其在室内和室外的环境下都可以执行识别、检测等应用。
- 1/4 尺寸的传感器 在高空间分辨率下拥有外形小巧占用面积小优势。
- 内置深度处理电路有效的释放上位机 CPU 处理资源。
- 开发中。

• KW33000ARA

光学尺寸：1/4 英寸
像素数：VGA
TOF 分类：间接 TOF
提供方式：裸片

• KW33000A1T (车载用)

光学尺寸：1/4 英寸
像素数：VGA
TOF 分类：间接 TOF
提供方式：封装

• KW33000A1K

光学尺寸：1/4 英寸
像素数：VGA
TOF 分类：间接 TOF
提供方式：封装

Part No.	Number of pixels	Optical size	Filter	Output frame rate	Depth range (m) / FoV(deg)	Package
KM34906BRA	640x480	1/4	No	30fps	Type-1)0.2m-1.0m/51x38deg Type-2)0.2m-1.2m(mode 1), 1.0m-6.0m(mode 2)/88x66deg Type-3)0.3m-4.0m/108x79deg	CHIP/WAFER
KM34906B1S	640x480	1/4	No	30fps	Type-1)0.2m-1.0m/51x38deg Type-2)0.2m-1.2m(mode 1), 1.0m-6.0m(mode 2)/88x66deg Type-3)0.3m-4.0m/108x79deg	FBGA057-P-0808
KW33000ARA	640x480	1/4	B/W	60fps	Type 1)0.2m-1.2m/51x38deg Type 2)0.2m-1.2m/137x107deg Type3)0.5m-10m/108x79deg	CHIP/WAFER
KW33000A1T	640x480	1/4	B/W	60fps	Type 1)0.2m-1.2m/51x38deg Type 2)0.2m-1.2m/137x107deg Type3)0.5m-10m/108x79deg	iBGA, 9.5mm x 10mm, 97pins
KW33000A1K	640x480	1/4	B/W	60fps	Type 1)0.2m-1.2m/51x38deg Type 2)0.2m-1.2m/137x107deg Type3)0.5m-10m/108x79deg	iBGA, 9.5mm x 10mm, 97pins

DSP / ISP

人机界面显示LSI



- 拥有十年以上量产实绩，累计销量超过 5500 万台
- 丰富的内置图像 (Graphics) 功能可以让车辆信息终端以更高级的方式展现；对各种视频 (Video) 输入接口的支持可以提高系统设计的扩展性
- Gerda® 为我们的商标

特点

- 将车辆信息以高级的二维 / 三维图像展现于汽车显示终端
- 提供开机快速、高画质 (高端显示功能) 的舒适使用体验
- 支持 AV 端子的模拟信号输入和最新制式的数字视频输入可以满足系统扩展和高低端系列产品开发
- 内置微处理器可以执行生成人机交互界面的程序和实现应用扩展 (比如：互联汽车)

• Gerda™-EINS 系列

- High resolution system (recommendation : 1920x480) / 高分辨率系统 (推荐尺寸：1920x480)
- Enhanced 2.5D graphics / 增强 2.5D
- Camera I/F: Analog, Digital & MIPI / 相机 I/F 2 频道 (模拟 / 数字 & MIPI)
- Display output after image processing / 图像处理后进行显示输出
- Image quality processing engine / 图像质量处理器
High visibility under foggy, dark or dirty lens condition / 在镜头起雾、进光量少、或镜头脏污的情况下也能实现高可视化
- Warping Engine/ 图像扭转
- Embedded frame buffer memory / 嵌入式帧缓冲存储器

Part No.	Series Name	CPU	Graphics	Display size	Video input	Mipi-Rx	Video output channel	LVDS-Tx	External Memory If	Boot Memory	Embedded Memory	USB	Ethernet	CAN-FD	Security	Package
KM2KSZ120UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	8MB	-	-	-	-	QFP 24mm£ 216pins
KM2KSZ130UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	10MB	-	-	-	-	QFP 24mm£ 216pins
KM2KSZ1206UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	8MB	Yes	Yes	Yes	-	QFP 24mm£ 216pins
KM2KSZ1306UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	10MB	Yes	Yes	Yes	-	QFP 24mm£ 216pins
KM2KSZ12Z6UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	8MB	Yes	Yes	Yes	(Optional)	QFP 24mm£ 216pins
KM2KSZ13Z6UA	Gerda™-EINS	ARM Cortex®-M7 Single	2.5D	1920 x 480 (recommended)	Analog, Digital	Mipi-CS12	1ch	Single	S-Flash	S-Flash	10MB	Yes	Yes	Yes	(Optional)	QFP 24mm£ 216pins

音响用统合 LSI

本系列 LSI 是应对多通道映像信号处理的统合 LSI。搭载复数 DSP 核心可进行丰富多彩的音响输出与输入，并内建 32 位元 CPU 处理器，实现单一晶片即可进行各种主要音响处理与控制连接装置的音响功能。

应用例

- 车载用音响系统
- 多声道音频应用 (混音器、放大器、扬声器、会议系统、卡拉 OK)

• KM103S Audio 系列

KM103S Audio 系统是应对多通道映像信号处理的统合 LSI。

特点

- 通过丰富的输入与输出接口 (模拟, 数位) 以及取样率转换器 (ASRC) 支援多种频道。
- 复数 DSP 核心实现更丰富的音讯处理, 可搭载原创功能。
- 内建 CPU 以及各种外围设备 (GPIO/ 通用型之输入输出, SPI/ 串行外设接口, I2C/IC 间音频, UART/ 通用非同步收发传输器), 可操控周边系统或作为辅助处理器使用。

• KM103S0G0QAA

- 双路音频 DSP
- Cadence® Tensilica® HiFi EP Single
- TDM, I2S, PCM, SPDIF / 时分复用, IC 间音频, 脉冲编码调制, SPDIF
- 音频模数转换器 / 数字模拟转换器
- 取样率转换器
- AM32 (32 位 CPU) Single
- GPIO, SPI, UART, I2C / 通用型之输入输出, 串行外设接口, 通用非同步收发传输器, IC 间音频
- HQFP216 24 毫米 x24 毫米

• KM103S0H0QAA / KMZS0H0QAAUB

- Audio DSP Dual / 双路音频 DSP
- Cadence® Tensilica® HiFi EP Single
- TDM, I2S, PCM, SPDIF / 时分复用, IC 间音频, 脉冲编码调制, SPDIF
- 音频模数转换器 / 数字模拟转换器
- 取样率转换器
- AM32 (32 位 CPU) Single
- GPIO, SPI, UART, I2C / 通用型之输入输出, 串行外设接口, 通用非同步收发传输器, IC 间音频
- LQFP128 18 毫米 x18 毫米
- AEC-Q100 支持 (KMZS0H0QAAUB only)

Part No.	CPU	DSP	Digital input	Analog input	Digital output	Analog output	Sampling Rate Converter	Peripherals	Operation Temperature (°C)	Package
KM103S0G0QAA	AM32 (original CPU) Single	ACORE (original DSP) Dual Tensilica® HiFi EP Single	TDM, I2S, PCM, SPDIF	ADC 6ch	TDM, I2S, PCM, SPDIF	DAC 6ch	2ch x 9	GPIO, SPI, UART, I2C	0 ~ 70	HQFP216 24x24
KM103S0H0QAA	AM32 (original CPU) Single	ACORE (original DSP) Dual Tensilica® HiFi EP Single	TDM, I2S, PCM, SPDIF	ADC 6ch	TDM, I2S, PCM, SPDIF	DAC 6ch	2ch x 9	GPIO, SPI, UART, I2C	0 ~ 70	LQFP128 18x18
KMZS0H0QAAUB	AM32 (original CPU) Single	ACORE (original DSP) Dual Tensilica® HiFi EP Single	TDM, I2S, PCM, SPDIF	ADC 6ch	TDM, I2S, PCM, SPDIF	DAC 6ch	2ch x 9	GPIO, SPI, UART, I2C	-40 ~ 85	LQFP128 18x18

Battery and Analog Solutions

模拟 IC

电池监视 IC

马达驱动 IC

LED 驱动器

显示驱动IC

运算放大器

模拟数位转换器

模拟 IC

电池监视 ICs



Nuvoton 的电池监控 IC，内嵌了内部诊断和安全功能，可以更广泛的检测电池异常。高精度的电压测量可以增加续航里程。单颗 IC 可测量最大 20 串电芯，可以用更少的器件构成 BMS。车用产品通过搭载 2 套电芯测量输入，多路选择，AD 变换器，实现完全冗余的测量系统，同时也搭载了鲁棒性更高的菊花链通讯功能。可以更容易的设计开发适用于 ISO26262 ASIL-D 的车用电池系统。

Nuvoton 提供车用品质，可以级联，内嵌电流测量等的电池监控 IC 产品系列。我司产品系列为纯电动汽车，混动汽车，储能系统，助力车等应用领域提供解决方案。

• 车用



电动汽车搭载的锂离子电池，因为可能发生发烟，起火的危险事件，所以电池监控被要求确保高的安全性。Nuvoton 的车用电池监控 IC 通过使用独有的 SOI 工艺，将器件，功能区隔离，实现完全冗余的测量系统。再加上冗余性高的通讯结构，可以实现安全性和信赖性高的系统。更容易的设计开发适用于 ISO26262 ASIL-D 的车用电池系统。高精度的电压测量不仅可以延长续航里程，因精度的保证范围宽，锂电池使用效率可以得到提高，便于开发共同平台后向各种车型横向展开。

Part No.	Description	Operating Voltage [Min] (V)	Operating Voltage [Max] (V)	Operating Temperature [Min] (°C)	Operating Temperature [Max] (°C)	Max Series Cells	Cell Voltage Measurement Accuracy (mV)	Monitoring Function	Daisy Chain Connection	High-Side FET Control	Package
KA84923UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414
KA84933UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414
KA84939UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414

• 级联



大功率储能系统电动汽车等的应用，要串联非常多的电芯。Nuvoton 的可级联电池监控 IC，通过菊花链将多个器件串联，可以容易实现只需一个 MCU 读取数据的系统。

Part No.	Description	Operating Voltage [Min] (V)	Operating Voltage [Max] (V)	Operating Temperature [Min] (°C)	Operating Temperature [Max] (°C)	Max Series Cells	Cell Voltage Measurement Accuracy (mV)	Monitoring Function	Daisy Chain Connection	High-Side FET Control	Package
KA84923UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414
KA84933UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414
KA84939UA	Stackable	10	100	-40	125	20	±1.5	Voltage/ Temperature	Available	N/A	HQFP080-P-1414
KA49625A	Stackable	12.5	100	-40	105	20	±10	Voltage/ Temperature	Available	N/A	LQFP080-P-1414

• 非级联



Nuvoton 的非级联电池监控 IC，搭载高精度 ADC，测量电池电压，电流。而且搭载外围需要的电源，和 MCU 一同实现均衡和充放电控制。单芯片搭载电池管理系统需要的功能，无需开关，电压转换器件实现系统简化。

Part No.	Description	Operating Voltage [Min] (V)	Operating Voltage [Max] (V)	Operating Temperature [Min] (°C)	Operating Temperature [Max] (°C)	Max Series Cells	Cell Voltage Measurement Accuracy (mV)	Monitoring Function	Daisy Chain Connection	High-Side FET Control	Package
KA49503A	Non stackable	12.5	85	-40	105	16	±10	Voltage/ Current/ Temperature	N/A	Available	LQFP080-P-1414
KA49511A	Non stackable	12.5	45	-40	105	10	±10	Voltage	N/A	Available	TQFP056-P-1010
KA49517A	Non stackable	12.5	85	-40	105	17	±5	Voltage/ Current/ Temperature	N/A	Available	HQFP064-P-1010
KA49522A	Non stackable	12.5	110	-40	85	22	±5	Voltage/ Current/ Temperature	N/A	Available	HQFP064-P-1010

马达驱动 ICs



电机发热引起的过电流会导致电机故障，及缩短电机寿命。我们开发的优化电流相位和波形的技术有利于高效地运行马达并减少热量的产生。新唐的马达驱动芯片系列采用独特的电流控制技术以优化电流，并实现更安全、寿命更长的马达。

新唐的马达驱动器芯片系列包括无刷直流马达驱动器、步进马达驱动器和镜头马达驱动器。我们的产品可用于广泛的应用，例如数据服务器、基站、办公自动化设备和摄像头。

• 无刷直流马达驱动器 (BLDC)

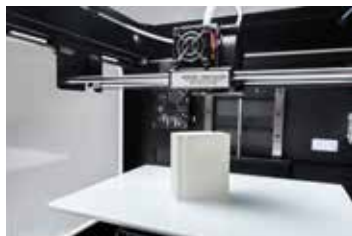


无刷直流马达的效率，有利于节能。此外，由于其高度的设计灵活性，可用于各种电压、转速和负载需求不同的应用。新唐的无刷直流马达驱动器通过我们独创的自动相位控制 (APC) 技术，针对过往需要进行调整的电机电流相位，最大限度地提升其马达的特性性能。

这也将有助于马达平台的设计以实现高效率地驱动任何马达。

Part No.	Sub-Family Description	Control Method	Sensor	Control Interface	Ron(Ω)	Operating Voltage(V)	Output Voltage [max](V)	Output Current [max](A)	Operating ambient temperature [min](°C)	Operating ambient temperature [max](°C)	Package
KA44143A	Three-phase BLDC motor driver	APC, PWM sinusoidal control	1	PWM/DC	1	12V/24V	28	2.2	-40	105	HQFN024-A-0404
KA44168A	Single-phase BLDC motor driver	APC, PWM softswitching	1	-	1.6	12V/24V	35	1	-40	105	MSOP008-P-0150
KA44169A	Single-phase BLDC motor driver	APC, PWM softswitching	1	PWM	1.6	12V/24V	36	1.4	-40	105	MSOP014-P-0225
KA44169AB	Single-phase BLDC motor driver	APC, PWM softswitching	1	DC	1.6	12V/24V	36	1.4	-40	105	MSOP014-P-0225
KA44170A	Single-phase BLDC motor driver	APC, PWM softswitching	1	PWM	1.25	12V/24V	36	1.6	-40	105	MSOP014-P-0225
KA44171A	Single-phase BLDC motor driver	APRaS, PWM softswitching	1	PWM/DC	Pre-Driver	12V/24V/48V	39	0.03	-40	105	HQFN020-A-0303

• 步进马达驱动器



步进马达适用于办公自动化和工业设备，需具备低发热、低振动和低 EMI 等条件。新唐的步进马达驱动器能以单个芯片控制双极两相步进马达。作为电流控制技术的强项之一的混合衰减自动控制，它通过不断检测和衰减对转矩没有贡献的过电流，以实现低发热及低振动的驱动。此外，当需要大输出电流时，独创的功率驱动控制可抑制噪声，并有助于降低电机的 EMI。

Part No.	Sub-Family Description	Control Method	Sensor	Control interface	Ron(Ω)	Operating Voltage (V)	Output Voltage [max](V)	Output Current [max](A)	Operating ambient temperature [min] (°C)	Operating ambient temperature [max] (°C)	Package
KA44180A	Dual bipolar stepper motor driver	Full step to Quarter step, Mixed-Decay control	-	parallel	0.95	12V/24V	37	1.5	-20	85	HQFN036-A-0505

• 镜头马达驱动器



镜头马达适用于监控摄像头和网络摄像头。这些应用的需求为小尺寸、低功耗和低噪声。新唐镜头马达驱动器集霍尔光圈控制和变焦 / 对焦控制功能于一身，进而实现更小的相机的电路板设计。此外，与传统的分立元件配置相比，通过我们独特的数字电路技术，能以低功耗及低噪声进行霍尔光圈位置控制。通过 SPI 通信的简易设置，有助于镜头模块的平台化设计。

Part No.	Sub-Family Description	Control Method	Sensor	Control interface	Ron(Ω)	Operating Voltage (V)	Output Voltage [max](V)	Output Current [max](A)	Operating ambient temperature [min] (°C)	Operating ambient temperature [max] (°C)	Package
KA41908B	Zoom, focus and iris control lens driver	CAP (Correction Amplitude & Phase) control, 256 microstep	1(Iris)	SPI	2.5 / 5.0	3.3V/5V	4V/6V	0.25A/ 0.15A	-40	105	HQFN044-A-0606

LED 驱动器

新唐科技的 LED 驱动器 IC 系列拥有独特的 LED 驱动技术，从消费类产品的 RGB 灯光到汽车大灯控制器。

新唐科技的 LED 驱动器 IC 帮助客户设计各种 LED 灯光效果。

• RGB LED 驱动器

新唐科技的 RGB LED 驱动器 IC 产品阵容包括灯串式 LED 驱动器和矩阵 LED 驱动器，采用了多达 256 细分的电流控制以及独特的调光控制技术来实现高质量的灯光效果以及更平滑的转换。

新唐科技的 LED 驱动器 IC 提供了音乐同步和视觉持久性（POV）等功能，可适用于各种 LED 应用，包括移动，可穿戴，视听设备，家用电器等。

Nuvoton RGB LED 驱动器能满足客户设备的通信接口和减少电源系统布线的需求，并实现最佳 LED 灯光效果。

特征

- 新的 LED 驱动器电路可呈现超过 6700 万 RGB 色彩
- 通过独特的照明控制方法自由地控制亮度
- 通过内置 LDO 减少电源线接线或线束 / 连接器

• KA32180A

KA32180A 是一个 16 点（4 x 4）矩阵 LED 驱动器。它最多可以驱动 4 个 RGB LED。

特征

- 4 x 4 LED 矩阵驱动器（可驱动的 LED 总数 = 16）
- LED 可选择的最大电流
- LED 音乐同步功能
- I²C 接口（标准模式，快速模式和快速模式增强版）
（4 个从站地址可选）
- 16 引脚塑料四方扁平无铅封装（QFN 型）

• KA32182A

KA32182A 是一个 36 点（6 x 6）矩阵 LED 驱动器。它最多可以驱动 12 个 RGB LED。

特征

- 6 x 6 LED 矩阵驱动器（可驱动的 LED 总数 = 36）
- LED 可选择的最大电流
- LED 音乐同步功能
- I²C 接口（标准模式，快速模式和快速模式增强版）
（4 个从站地址可选）
- 20 引脚塑料四方扁平无铅封装（QFN 型）

• KA32183A

KA32183A 是一个 81 点 (9 x 9) 矩阵 LED 驱动器。它最多可以驱动 27 个 RGB LED。

特征

- 9 x 9 LED 矩阵驱动器 (可驱动的 LED 总数 = 81)
- LED 可选择的最大电流
- LED 音乐同步功能
- I²C 接口 (标准模式, 快速模式和快速模式增强版)
(4 个从站地址可选)
- 24 引脚热缩小尺寸封装 (SSOP 型)

Part No.	Series	Matrix LEDs	number of channels	Number of PWM step	Number of Current step	constant current control	Host I/F	Operating Voltage [Min] (V)	Operating Voltage [Max] (V)	Package
KA32180A	LED Matrix Driver	4 x 4	-	256	16	-	I ² C	3.1	5.5	HQFN016-A-0304
KA32182A	LED Matrix Driver	6 x 6	-	256	16	-	I ² C	3.1	5.5	HQFN020-A-0304
KA32183A	LED Matrix Driver	9 x 9	-	256	16	-	I ² C	3.1	5.5	SSOP024-P-0225

运算放大器

运算放大器，通常缩写为运放，是模拟电子电路中一种非常多功能且广泛使用的电子元件，其功能包括放大、求和、积分、微分、缓冲、滤波等。新唐科技提供精密运放产品，适用于广泛的应用领域。

• NOP912/NOP914 系列

NOP912/NOP914 是一单电源精密运放产品系列，工作电压范围为 2.7V 至 5.5V，工作温度范围为 -40° C 至 105° C。在这个产品系列中，NOP912 包含 2 个放大器，而 NOP914 则包含 4 个放大器。基于斩波稳定放大器设计，这一系列运放具有卓越的特性，包括 50 μ V 的低失调电压、0.05 μ V/° C 的低温度漂移、8MHz 的宽增益带宽、6V/ μ s 的高 Slew rate 以及全轨输入和输出电压范围。这些优势使 NOP912/NOP914 运放适用于各种应用中的信号调理。NOP912 提供 SOIC-8 封装，而 NOP914 提供 TSSOP-14 封装。

關鍵特性： 50 μ V 的低失调电压、0.05 μ V/° C 的低温度漂移、8MHz 的宽增益带宽、6V/ μ s 的高 Slew rate 以及全轨输入和输出电压范围

目標應用： 光电传感器、烟雾探测器、红外感应器、力传感器、脉搏血氧仪、血压传感器、血糖仪、太阳能逆变器、电机控制器

Part No.	Number of Amps	Operating Voltage (min)	Operating Voltage (max)	Operating Temperature (min)	Operating Temperature (max)	GBW (MHz)	V _{OFFSET} @ 25°C (μ V)	Offset Drift (μ V/°C)	Slew Rate (V/ μ S)	Rail-to-rail	I _{DD} (mA)	Package Type	Package Size
NOP912	2	2.7	5.5	-40	105	8	50	0.05	6	In,Out	2.5	SOIC8	3.91 x 4.9
NOP914	4	2.7	5.5	-40	105	8	50	0.05	6	In,Out	4	TSSOP14	4.4 x 5.0

模拟数位转换器

模数转换器 (ADC) 是电子设计中的关键组件，它有助于将模拟信号转换为精确的数字数据。除了 NuMicro MCU 集成的 SAR ADC 外，新唐科技还推出了 NADC24 系列，这是一组 24 位 Delta-Sigma ADC，在分辨率、精度、速度等方面提供卓越的性能。

• NADC24 系列

NADC24 系列是一组高精度的 24 位 Delta-Sigma ($\Delta\Sigma$) 模数转换器 (ADC)。这些 ADC 在高精度和高速度下测量小信号表现出色。为了实现高度集成，NADC24 集成了可编程增益放大器 (PGA)，可配置增益从 1 到 128，内部参考电压源 (1.2V 或 2.4V)，内部 49.152MHz 振荡器，温度传感器，用于传感器驱动的 12 位 DAC，以及用于 ADC 配置 SPI 接口。

關鍵特性： 高精度：最高 22 位的有效位数 (ENOB)，高速：最高 96Ksps 的输出数据速率，集成 12 位 DAC，集成温度传感器，内部参考电压源 1.2V / 2.4V。

目標應用： 电压电流测量，电源分配单元 (PDU)，电子秤，压力传感器，气体传感器，脉搏血氧仪

Part No.	V _{DD} (V)	Operating Temperature (min)(°C)	Operating Temperature (max)(°C)	Architecture (Type)	Input Channels (Differential) (Ch)	Input Channels (Single-ended) (Ch)	Resolution (Bit)	Output data rate (SPS)	12-bit DAC (Set)	Internal VREF (V)	Temperature Sensor Accuracy (°C)	SPI (Set)	Package Type (Type)	Package size (mm x mm)
NADC24D003FA	2.7 ~ 3.6	-40	105	Delta-Sigma	3	6	24	1.25~96K	-	1.2 or 2.4	±2	1	TSSOP20	4.4 x 6.5
NADC24D004TA	2.7 ~ 3.6	-40	105	Delta-Sigma	4	8	24	1.25~96K	1	1.2 or 2.4	±2	1	QFN32	4 x 4

IoT with Security

微控制器

32位 KM103 微控制器

32位 KM103 微控制器

KM103 系列搭载 NTCJ 独创的 32 位 CPU 内核“AM32R”，是一款同时具有高处理能力及低功耗性能的 MCU，适用于电机控制。该 MCU 内置高性能 PWM，高速 AD 以及反馈控制辅助功能，可实现高效率高性能的电机控制。

• KM103H 逆变器控制 系列

KM103H 系列搭载独创的 32-bit CPU 内核，是一款同时具有高处理能力及低功耗性能的 MCU。

该系列内置高性能 PWM，高速 AD 变换器，变频器 / 转换器专用计算器 (3 相 -2 相转换器，三角函数，平方根，n 阶计算)，闪存专用缓存器，可实现高效率高性能的控制。

• KM103HFBx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I/O	Timer (8-bit)	Timer (16-bit)	Motor PWM	Power control PWM	Connectivity				ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
										Clock synchronous	UART	SPI	I2C	Channel	Unit							
KM103HFB3G	80	132	16	16	25	12	5	1	3	2	2	1	1	8	2	6	2	4	2	v	v	TQFP48 (7x7)
KM103HFB4G	80	132	16	16	41	12	5	2	6	3	3	1	1	10	2	6	2	4	2	v	v	TQFP64 (10x10)
KM103HFB5K	80	264	20	32	54	12	6	2	6	4	4	1	1	16	3	6	2	4	2	v	v	TQFP80 (12x12) LQFP80 (14x14)

• KM103HFDx/C4

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (8-bit)	Timer (16-bit)	Motor PWM	Connectivity				ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
										Clock synchronous	UART	SPI	I2C	Channel	Unit							
KM103HFC4K	120	264	12	32	16	44	12	6	2	3	3	1	1	12	3	6	2	4	-	v	v	TQFP64 (10x10)
KM103HFD5K	120	264	12	32	16	54	16	8	2	5	5	1	1	16	3	9	2	6	3	v	v	TQFP80 (12x12)
KM103HFD5M	120	408	20	64	20	54	16	8	2	5	5	1	1	16	3	9	2	6	3	v	v	TQFP80 (12x12)
KM103HFD6M	120	408	20	64	20	74	16	8	2	5	5	1	1	20	3	9	2	6	3	v	v	LQFP100 (14x14)
KM103HFD6N	120	512	32	64	32	74	16	8	2	5	5	1	1	20	3	9	2	6	3	v	v	LQFP100 (14x14)
KM103HFD7N	120	512	32	64	32	100	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP128 (18x18)
KM103HFD8N	120	512	32	64	32	112	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP144 (20x20)

• KM103HFGx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (8-bit)	Timer (16-bit)	Motor PWM	Connectivity				ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
										Clock synchronous	UART	SPI	I2C	Channel	Unit							
KM103HFG4K	120	264	12	32	16	44	12	6	2	3	3	1	1	12	3	6	2	4	2	v	v	TQFP64 (10x10)
KM103HFG4M	120	408	20	64	20	44	12	6	2	3	3	1	1	12	3	6	2	4	2	v	v	TQFP64 (10x10)
KM103HFG5K	120	264	12	32	16	54	16	8	2	5	5	1	1	16	3	9	2	6	3	v	v	TQFP80 (12x12)
KM103HFG5M	120	408	20	64	20	54	16	8	2	5	5	1	1	16	3	9	2	6	3	v	v	TQFP80 (12x12)
KM103HFG5N	120	512	32	64	32	54	16	8	2	5	5	1	1	16	3	9	2	6	3	v	v	TQFP80 (12x12)
KM103HFG6K	120	264	12	32	16	74	16	8	2	5	5	1	1	20	3	9	2	6	3	v	v	LQFP100 (14x14)
KM103HFG6M	120	408	20	64	20	74	16	8	2	5	5	1	1	20	3	9	2	6	3	v	v	LQFP100 (14x14)
KM103HFG6N	120	512	32	64	32	74	16	8	2	5	5	1	1	20	3	9	2	6	3	v	v	LQFP100 (14x14)
KM103HFG7K	120	264	12	32	16	100	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP128 (18x18)
KM103HFG7M	120	408	20	64	20	100	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP128 (18x18)
KM103HFG7N	120	512	32	64	32	100	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP128 (18x18)
KM103HFG8M	120	408	20	64	20	112	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP144 (20x20)
KM103HFG8N	120	512	32	64	32	112	20	10	3	7	7	1	1	28	3	9	2	6	3	v	v	LQFP144 (20x20)

• KM103HFKx

Part No.	Core speed (MHz)	Flash (KB)	SRAM (KB)	Data Flash	I-RAM (KB)	I/O	Timer (8-bit)	Timer (16-bit)	Motor PWM	Connectivity				ADC(12-bit)		DAC (8-bit)	DAC (10-bit)	Comparator	VGA	Flash/SRAM ECC	CRC	Package
										Clock synchronous	UART	SPI	I2C	Channel	Unit							
KM103HFK4Y	120	264	12	32	32	44	12	6	2	3	3	1	1	12	3	12	2	8	4	v	v	TQFP64 (10x10)
KM103HFK5Y	120	264	12	32	32	54	16	8	2	5	5	1	1	16	3	12	2	8	4	v	v	TQFP80 (12x12)
KM103HFK5N	120	512	32	64	32	54	16	8	2	5	5	1	1	16	3	12	2	8	4	v	v	TQFP80 (12x12)
KM103HFK6Y	120	264	12	32	32	74	16	8	2	5	5	1	1	20	3	12	2	8	4	v	v	LQFP100 (14x14)
KM103HFK6N	120	512	32	64	32	74	16	8	2	5	5	1	1	20	3	12	2	8	4	v	v	LQFP100 (14x14)
KM103HFK7N	120	512	32	64	32	100	20	10	3	7	7	1	1	28	3	12	2	8	4	v	v	LQFP128 (18x18)
KM103HFK8N	120	512	32	64	32	112	20	10	3	7	7	1	1	28	3	12	2	8	4	v	v	LQFP144 (20x20)

通信与接口界面芯片

高速接口界面芯片



• KM864 Series

产品概览

Nuvoton 是提供用于各种 HDMI (高清多媒体接口) 应用如 AV 扩大机、条形音箱、切换器、游戏、VR、数字标牌和测量设备等的 HDMI 芯片的领先供货商。

KM86473D 是一款 HDMI2.0 和 Display Port 转 MIPI 的桥接芯片，应用于 AR/VR 头显。KM864788 是一款支持 HDMI2.0 的 4 进 2 出矩阵切换芯片，应用于 AV 扩大机、条形音箱、切换器等。KM864807 是一款支持 HDMI2.1 的 4 进 2 出矩阵切换芯片，同样应用于 AV 扩大机、条形音箱、切换器等。

特点

- KM86473D：可选 HDMI2.0 或 Display Port 1.4 输入。MIPI DSI 2.5Gbps x 16 通道输出。支持 HDCP1.4/2.3、I2S/TDM/SPDIF 音频输出、DSC 编码、OSD、Up-scaler 和 I2C 从机控制。
- KM864788：4 路 HDMI2.0 输入，2 路 HDMI2.0 输出。支持分辨率高达 4k/60Hz。支持 HDCP1.4/2.3、I2S/SPDIF 音频输出、OSD、Up/Down-scaler、ARC、I2C 从机控制。
- KM864807：4 路 HDMI2.1 输入，2 路 HDMI2.1 输出。支持分辨率高达 8k/60Hz 和 4k/120Hz。支持 HDCP1.4/2.3、I2S/TDM/SPDIF 音频输出、OSD、Up/Down-scaler、eARC 输入、I2C 从机控制。

Parts	Input interface	Output interface	HDCP	Power supply	Power consumption	Package	Other functions
KM86473D	Selectable of HDMI2.0 and Display Port 1.4	MIPI DSI 2.5Gbps x 16 lanes	HDCP 1.4 and 2.3	1.0.9V, 1.8V, 3.3V	0.9W	8x8mm BGA 160pin 0.5mm pitch	Audio output of I2S/TDM/SPDIF, DSC encode, OSD, UP scaler and I2C slave control.
KM864788	4 input of HDMI2.0	2 output of HDMI2.0	HDCP 1.4 and 2.3	1.1V, 3.3V	3.5W	20x20mmQFP 144pin 0.5mm pitch	Audio output of I2S/TDM/SPDIF, DSC encode, OSD, UP scaler and I2C slave control.
KM864807	4 input of HDMI2.1	2 output of HDMI2.1	HDCP 1.4 and 2.3	0.9V, 1.8V, 3.3V	3.8W	16x16mmBGA 378pin 0.65mm pitch	Audio output of I2S/SPDIF, OSD, UP and down scaler, eARC input, DSC pass through, Dynamic HDR, HDR,HDR10+, VRR, ALLM, and I2C slave control.

Foundry Service

晶圆代工简介

新唐科技晶圆代工（源自于华邦电子二厂）座落于台湾新竹科学园区，自 1992 年起，拥有超过 25 年晶圆代工服务之专业经验。

6 英寸晶圆厂，月产能 45,000 片，1.0um 至 0.35um 节点技术，提供成熟与特殊工艺。

至今已量产超过近千万片晶圆，并实现 MCU、Speech、Audio、Power (LDO、DC/DC、AC/DC、PMIC、BMIC、Driver IC)、LCD/LED Driver、LED BL/ Lighting Driver、Motor Driver、TVS、MOSFET、Sensor (Hall、Light、Pressure、Thermal、Gas、Humidity) 与 LED BL/ Lighting Driver ... 等产品。

FAB

6 inch (class-1)

Capacity

45k pcs/M

Technology

1.0um to 0.35um

Specialty

Process

在生产与服务方面，我们提供稳定的产能、最佳的质量与准确的交期。

我们拥有丰富的软硬设备与技术服务资源，并取得多项国际认证档，以 More-Than-Foundry 的思考，提供卓越的代工服务，满足您于市场上的需求，新唐科技晶圆代工立志成为客户最佳的合作伙伴。



Best R&D team

TD, ESD, Model, PDK

Strong technical support team

CE, PIE, Product

Professional analysis machine

TLP, EMMI, OBRICH, FIB, SEM, TEM

International certifications LAB

IATF 16949, QC 080000, ISO 14001, ISO 45001

新唐科技晶圆代工傾聽客戶心聲，時時刻刻為客戶著想，提供客戶更多增值服務。

1. 4 合 1 光罩服務 (MLM)、全光罩 + 插花技术
2. 完整的设计文件支持 (PDK)
3. 全方位的支援團隊
4. 客制化服务平台
5. 第三方服务

工艺简介

新唐科技晶圆代工致力于自有技术开发，提供 0.35um 以上的多样化成熟与特殊工艺，包括电源管理 (Power Management)、高压 (High Voltage)、超高压 (Ultra High Voltage)、逻辑 (Logic)、信号混合 (Mixed Signal)、光罩唯独 (Mask ROM/Flat Cell)、嵌入式内存 (embedded Non-Volatile Memory) 与客制化制程 (TVS、MOSFET、Sensor、GaN power)。

Specialty Process

CMOS IC

Power (HV/ BCD/ UHV/ HVIC), Logic/ eNVM, Mixed signal, Mask ROM/ Flat cell

Discrete

TVS, MOSFET

Sensor

Thermal, Pressure, Light, Gas, Humidity

GaN-on-Si Power

Depletion HEMT/MIS-HEMT

CMOS IC 工艺，我们专注于电源管理及超高压技术之研发，提供客户更具竞争力的新世代电源技术平台与服务价值。

第二代 0.5 微米 UHV 工艺进入稳定及高质量的生产阶段，提供多元化器件，扩大 AC/DC 电源应用领域。

第二代 0.5 微米 HVIC 工艺进入稳定及高质量的生产阶段，提供制程精简、高可靠度器件，将超高压技术拓展至马达驱动应用领域。

第二代 0.35 微米 BCD 工艺进入稳定及高质量的生产阶段，提供超低导通阻、制程精简及多元化器件，满足客户于 DC/DC 电源管理应用领域。

Process	Technology	Process Feature
Power (HV/ BCD/ UHV/ HVIC)	0.35um	5/12~40V BCD G2 (NEW)
		5/12~40V BCD (with OTP)
		5/60~80V BCD
	0.5um	5/16/60~120V BCD (Developing)
		7/9/30/40/150~700V UHV G2 (NEW)
		5/20/120~600V HVIC G2 (NEW)
		5/7/9/25V HVCMOS
		5/12/16/20V BCD
	0.6um	5/25/40V BCD
		5/25/40/120/500V UHV
0.8um	5/40V HVCMOS (N-sub)	
1.0um	5/40V HVCMOS (P-epi)	
Logic / Mixed Mode	0.35um	1.5/3.3/5V Logic
		3.3/5V Logic 5V Logic
	0.45um	3.3V Logic 5V Logic
Logic / Mixed Mode + eNVM	0.5um	1.5V Logic
		3.3V Logic 5V Logic
	0.35um	3.3/5V Logic (YMC_eNVM)
Mask ROM / Flat Cell	0.32um	1.5/3.3/5V embedded 0.32 flat cell
	0.37um	5V embedded 0.37 flat cell

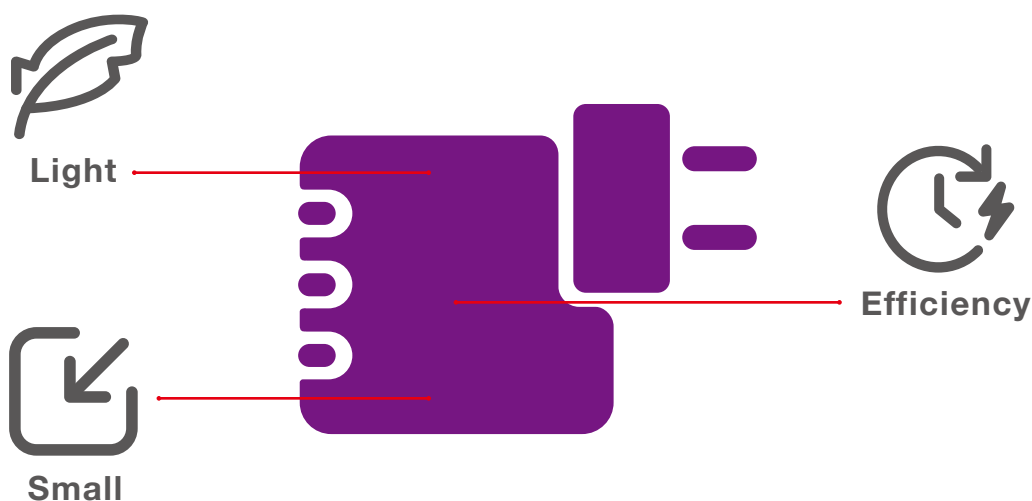
特殊工艺简介

在功率转换领域中，超过 70 年市场的硅 (Si) 技术发展已经到达尽头，而氮化镓 (GaN) 技术因材料特性优异造就了高效能、高开关速度、轻量化、小尺寸及低成本等卓越优势。随着氮化镓技术不断发展和成本降低，它将会改变整个产业带来光明前景。

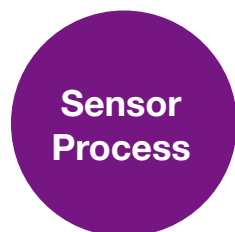
新唐科技晶圆代工历经多年的研发，6 inch GaN-on-Si Power device - Depletion HEMT 已成功开发与导入量产，并持续开发下世代技术，提供更小面积与器件性能，满足客户产品之竞争力。

GaN-on-Si Power Platform

650V G1 Depletion MIS-HEMT
650V G1 Depletion HEMT



万物联网新世代将以“人”为本，对于外部世界探索，人类透过身体各个器官功能回传至大脑，而电子产品将透过传感器转换讯息至处理器，新唐科技晶圆代工专注传感器技术开发，支持客制化代工服务。



Light Sensor

环境光感测、距离感测

Pressure Sensor

气压高度计、胎压量测表压

Thermal Sensor

生物检测、耳温量测、红外线热影像

Gas Sensor

酒精检测、CO2 检测、有毒气体 (VOC)

Humidity Sensor

湿度检测、智能家居应用

nuvoTon

— Innovative Total Solution Provider —

 **RUIFAN** 瑞凡

RUIFAN 瑞凡

—— 瑞芯创想 智领非凡 ——

瑞凡微公司简介



公司介绍 COMPANY PROFILE

RUIFAN 瑞凡

公司简介 Company Profile

2003年成立，注册资本¥3060万，总部位于深圳，先后在香港、上海、杭州、厦门、长沙、广州、宁波、苏州、昆山设立办事处。

香港&深圳设立仓库并支持境内外快速交付。已实施全员共享ERP\CRM\OA等在线信息平台，获得深圳市和国家高新技术企业资质；国际分销商协会ERA认证；ISO9001认证企业，HDCP认证会员，深圳市电子商会理事单位，深圳市计算机行业协会理事单位，中国信息产业商会电子元器件应用与供应链分会（ECAS）理事，“专精特新”、“小巨人”企业。

现有员工约130人，其中市场销售人员约55%，技术人员约25%，运营管理人员约20%；采用“授权代理 & 现货分销”商业模式，以MCU产品为主轴，服务客户超过8000+，原厂30+，是本土较有影响力的单片机代理商和独立分销商。

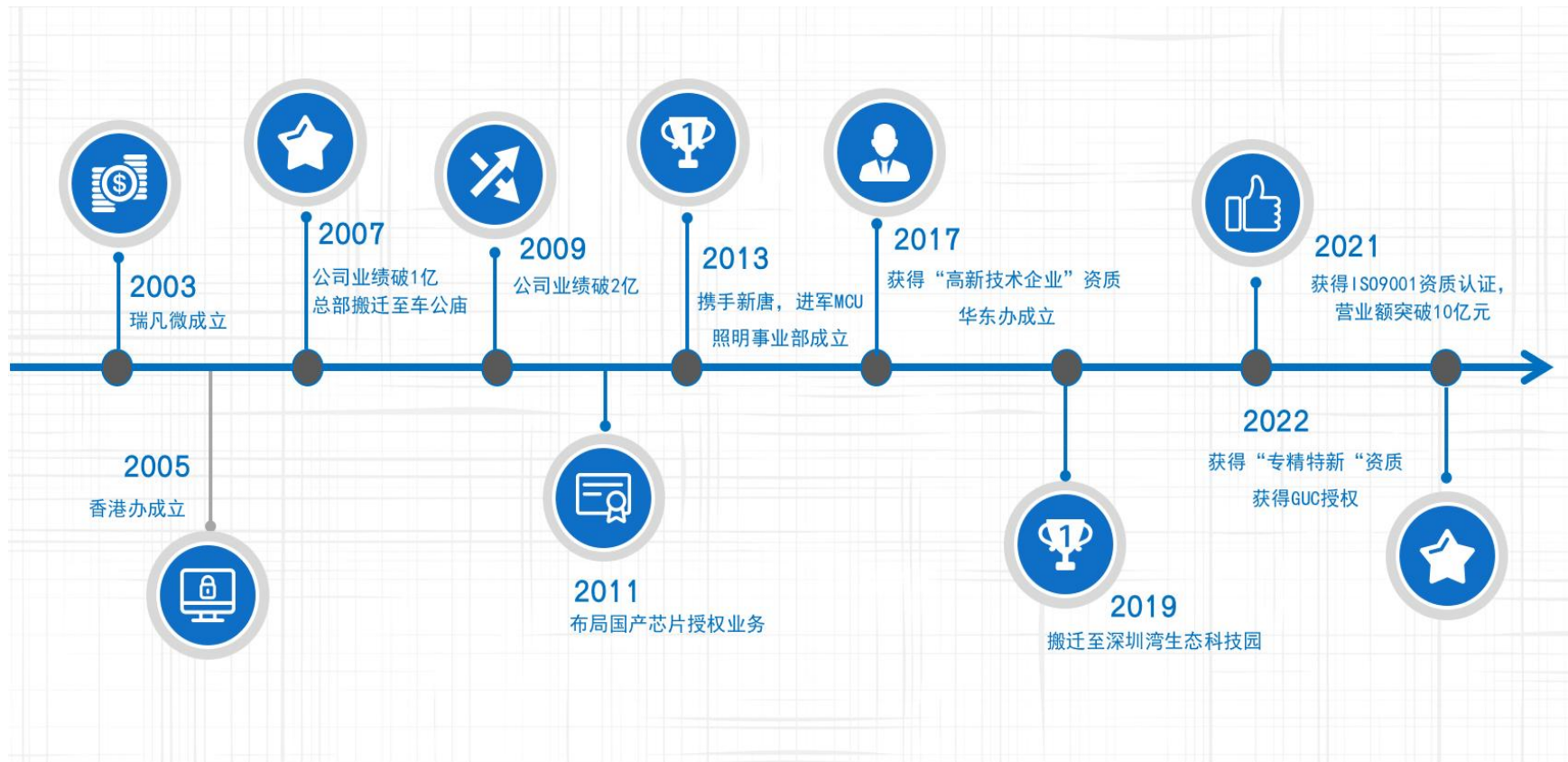






公司历史沿革

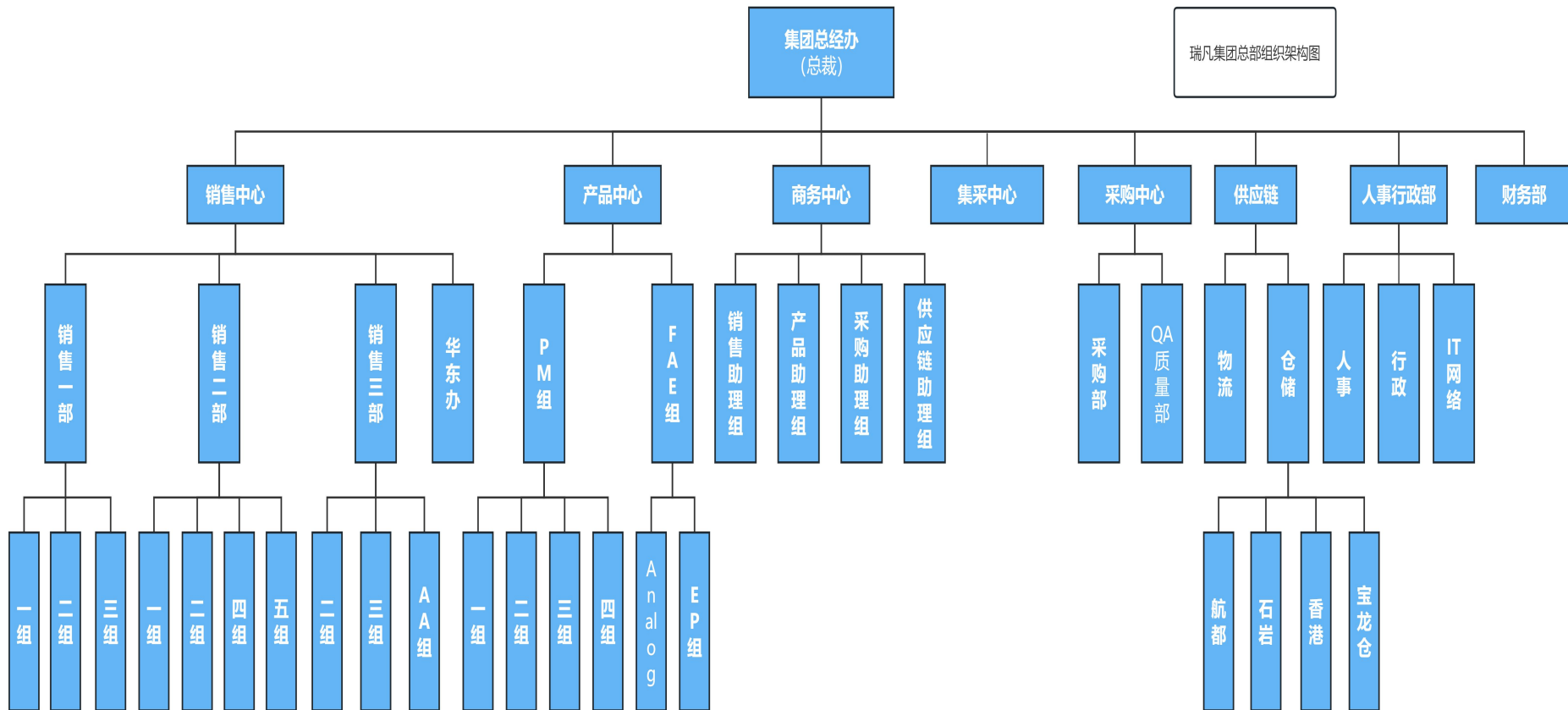
RUIFAN 瑞凡





组织架构

RUIFAN 瑞凡





代理&分销产品线

RUIFAN 瑞凡

nuvoTon
新唐科技

XHSC

Eastsoft.
上海东软载波微电子有限公司
Shanghai Eastsoft Microelectronics Co., Ltd.

Nation 
国民科技

holychip

 **芯海科技**
CHIPSEA

 **3PEAK**

 **SIMCom**

Fibocom
PERFECT WIRELESS EXPERIENCE

TELINK
SEMICONDUCTOR

 **兆芯**


Micro Commercial Components

 **DATSSD**

Netac 朗科

 **奥伦德**
ORIENT

 **HPMicro**
先楫半导体

 **芯迈半导体**
Silicon Magic

 **iCM**


精工风扇 鼎道制造

MagnTek



RENESAS
BIG IDEAS FOR EVERY SPACE

power
integrations

winbond
We Deliver

 **TEXAS INSTRUMENTS**



重要合作客户

RUIFAN 瑞凡

ZTE 中兴

Lenovo 联想

VENTURE

Miele

poly

3CEMS
GROUP

EASTTECH

DESAY 蓝微电子

影石 Insta360

INVENTRONICS
英飞特电子

高新投三江

Deye 德業

HO
华勤通讯

PCPartner

CVTE Dream-Future
视源股份

jwipc 智微智能

EDAN

COMEN

A2 GLOBAL
electronics + solutions

SMITH



方案&应用

RUIFAN 瑞凡

PC/IPC/服务器



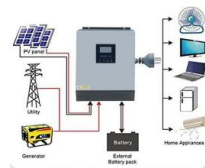
储能设备



通讯设备



医疗器械



光伏逆变

工业四表



汽车电子



安防报警



新消费电子





参考设计及客户成品展示

RUIFAN 瑞凡



**助力碳中和
信创筑基护航**



荣誉证书

RUIFAN 瑞凡



dun & bradstreet
邓白氏

D-U-N-S®: 66-442-2324
财务评级: 3AA2



DIGITAL CONTENT PROTECTION

DCP

About DCP Licensing HDCP Specifications Compliance HDCP Products

About DCP

Digital Content Protection LLC (DCP) is an organization that licenses technologies for protecting premium commercial entertainment content. High-bandwidth Digital Content Protection (HDCP) is a specification developed by Intel Corporation to protect digital entertainment content across digital interfaces. The HDCP specification provides a robust, cost-effective and transparent method for transmitting and receiving digital entertainment content to compliant digital displays.

Company Name	Agreement Type	Items per page	Reset	Search
ruifan	HDCP Content Participant Licensees HDCP Licensed Adopters HDCP Resellers HDCP 2.x Resellers HDCP 2.x Licensed Adopters	50		

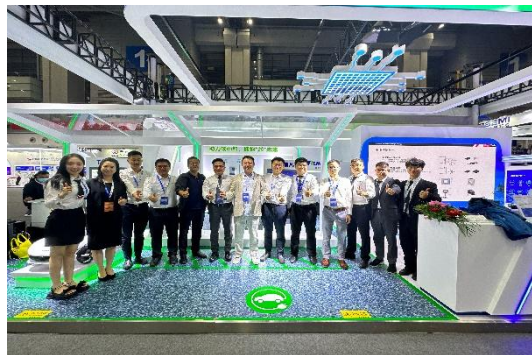
Showing results for All Licensees

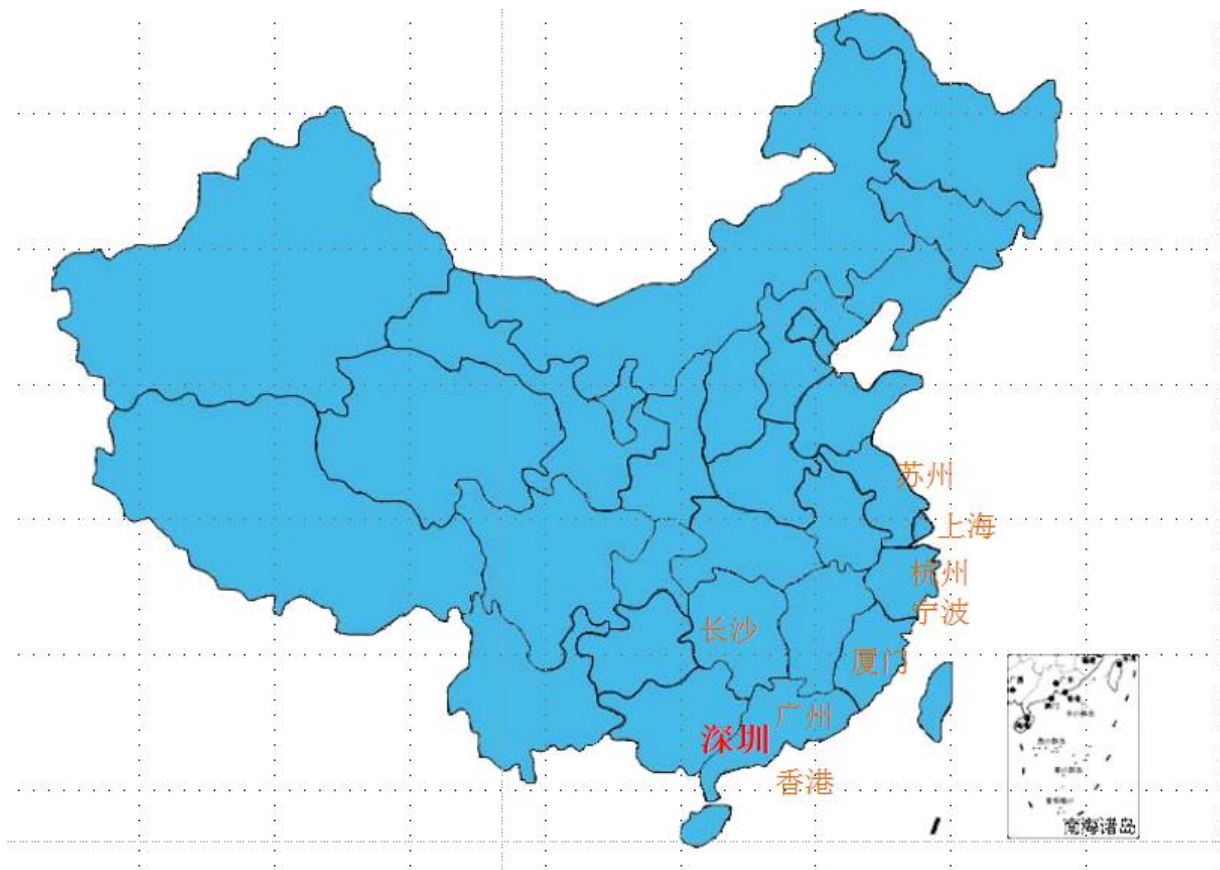
Company Name	Agreement Type	Expiration Date
Shenzhen Ruifan Microelectronics Company Limited	HDCP 2.x Reseller	12-10-2022



口碑见证

RUIFAN 瑞凡





- 深圳总部
- 香港公司
- 上海办
- 杭州办
- 广州办
- 厦门办
- 长沙办
- 宁波办
- 苏州办



仓储物流管理ISO9001: 2015

瑞凡 RUIFAN

来料品控检验管理



物料编码可追溯管理



防潮恒温存储条件

拆包散料管理

有全面的来料检测流程规范和专业的检测设备, 结合第三方检测机构合作采取开盖测试, X-Ray检测, 加热化学测试, 电特性测试, 可焊性测试, ROHS测试, 失效分析, 编程烧录, 电磁兼容测试, 以及定制测试等。





01

实力&专业

20年+公司经营积累

16年+MCU行业沉淀

战略备货+循环滚动备货

02

一站式解决方案

方案选型 & 技术支持

软硬件开发&可替换物料库

强大的品牌配套能力

03

供应链&信贷

香港 & 国内24H交付

客户授信 & 原厂垫资

04

授权代理 & 原装正品

原厂直供 & 品质保证

售后保证 & 行业口碑

RUIFAN 瑞凡

—— 瑞芯创想 智领非凡 ——

THANKS!

单片机技术分销领跑者

本土IC分销行业领先企业

深圳市瑞凡微电子科技有限公司



总部地址：深圳市南山区深圳湾科技生态园
12栋B座7层24-26号

电话：0755-88377740

传真：0755-83719660

技术窗口：jeff.jiang@rfwdz.com / FAE@rfwdz.com

网址：<http://www.rfwdz.com/>

nuvoTon

— Innovative Total Solution Provider —

 **RUIFAN** 瑞凡

Headquarters — Taiwan

新唐科技股份有限公司

No. 4, Creation Rd. III, Hsinchu Science Park, Hsinchu, Taiwan 300
台湾新竹市科学工业园区研新三路 4 号 · ZIP: 300
T/ 886-3-5770066

Worldwide Offices

台北办事处

No.192, Jingye 1st Rd., Zhongshan Dist., Taipei City,
Taiwan 104
台北市中山区敬业一路192号 · ZIP: 104
T/ 886-2-26588066

台南办事处

No.111, Wudang Rd., Guiren Dist., Tainan City, Taiwan 711
台南市归仁区武当路111号 · ZIP: 711

芯唐电子科技（深圳）有限公司

8F Microprofit Building, Gaoxinnan 6 Road, High-Tech
Industrial Park, Nanshan Dist., Shenzhen, P.R. China 518057
深圳市南山区高新技术产业园高新南六道迈科龙大厦 8 楼
T/ 86-755-83515350

芯唐电子科技（上海）有限公司

Unit 2701, 27F, 2299 Yan An Road (West), Shanghai,
P.R. China 200336
上海市延安西路 2299 号 27 楼 2701 室
T/ 86-21-62365999

芯唐电子科技（上海）有限公司 南京办公室

Room 3417, NO.67 ZhuJiang Road, Nanjing City,
P.R. China 210008
南京市珠江路 67 号 3417 室
T/ 86-25-83291517, 86-25-83291527

芯唐电子科技（香港）有限公司

Unit 9-11, 22F, Millennium City 2, 378 Kwun Tong Road,
Kowloon, Hong Kong, P.R. China
香港九龙观塘道 378 号 · 创纪之城二期 · 22 楼 · 9-11 室
T/ 852-27513100

竹北办公室

No.539, Sec. 2, Wenxing Rd., Jhubei City, Hsinchu County, Taiwan
新竹县竹北市文兴路二段539号
T/ 886-3-5770066

German Sales Office

Carl-von-Linde-Str. 40, 85716 Unterschleissheim, Germany 85716

Nuvoton Technology Corporation America

2727 North First Street, San Jose, CA 95134
T/ 1-408-544-1718

Nuvoton Technology Corporation America
Detroit, Michigan Office

38705 Seven Mile Road, Suite 180,
Livonia, MI 48152

Nuvoton Technology India Private Limited

PS22-23, Bridge+, Unit No. 02-02 to 15, 2nd Floor, Ascendas
Park Square Mall, Whitefield Road, ITPB Bengaluru-560066
T/ 91-80-6122 4762

Nuvoton Technology Israel Limited

8 Hasadnaot Street. POB 3007, Herzliya, 4613001, Israel
T/ 972-9-970-2000

Nuvoton Technology Israel Limited
Migdal Haemek Office

Ramat Gavriel Industrial zone, 5 Hata'asia St.,
Migdal Haemek, Israel

Nuvoton Technology Singapore Pte. Ltd.

3, Bedok South Road, Singapore 469269

Nuvoton Technology Korea Limited

#2406, #2507 Room, 511, Yeongdong-daero, Gangnam-gu, Seoul,
Korea(Samsungdong, Trade Tower)

Nuvoton Technology Corporation Japan

1 Kotari-yakemachi, Nagaokakyo City, Kyoto 617-8520,
Japan

Atfields Manufacturing Technology Corporation

800 Higashiyama, Uozu City, Toyama 937-8585, Japan



Nuvoton.com



电子目录



牛卧堂



新唐天猫旗舰店

www.nuvoton.com

SalesSupport@nuvoton.com